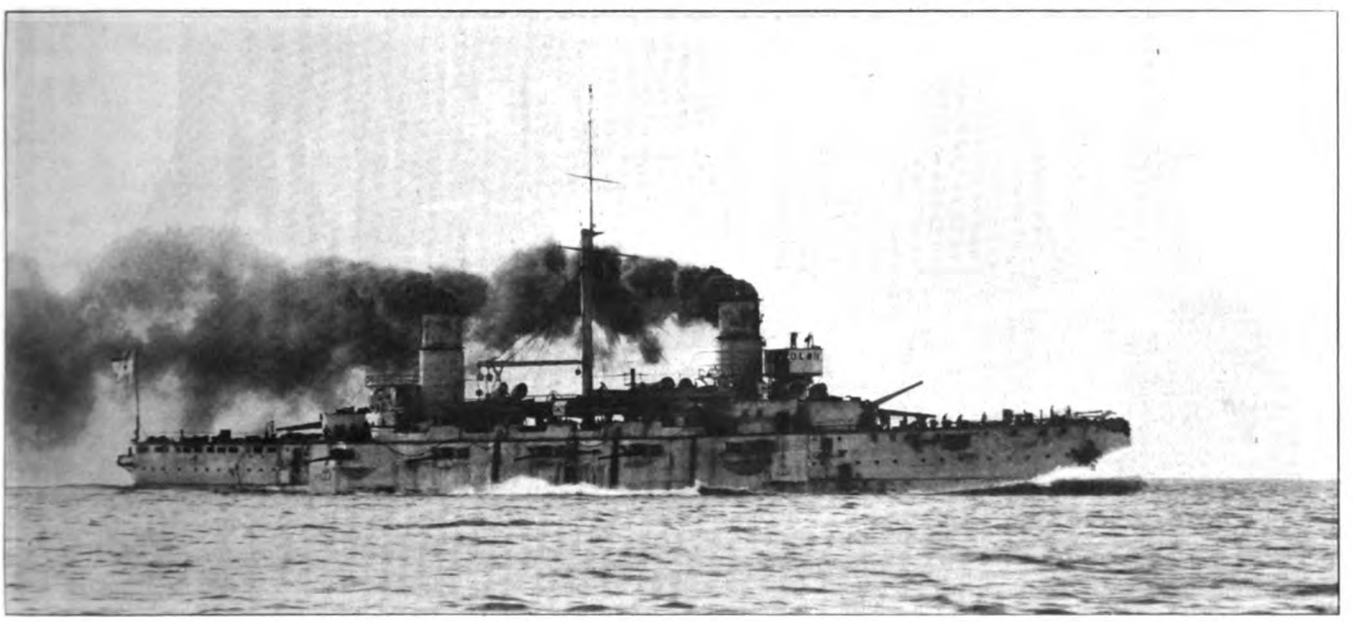
MARINE REVIEW

VOL. XXX. CLEVELAND, O., SEPT. 22, 1904. NO. 12.

Machinery of Cruisers Nisshim and Kasuga.

The machinery of the Japanese cruisers Nisshim and Kasuga consists of two main engines fitted with all the necessary auxiliary engines, steam being supplied by eight cylindrical return tube boilers. Each set of engines is placed in a separate engine room, divided by a longitudinal watertight bulkhead and each engine room is, in all respects, exactly similar and entirely independent of the other. The boilers are placed in four separate rooms, two forward and two aft the engine rooms.



JAPANESE CRUISER NISSHIM.

The main engines are of the three-cylinder, triple-expansion type, the diameter of the cylinder being 47½ in., 63 in. and 93 in.; the stroke is 46 in. The barrels of all the cylinders are made of special close-grained cast iron and are steam jacketed. Stephenson link-motion is adopted for working the valves, which are piston type on the high-pressure cylinder and of the double-ported flat design on the intermediate and low-pressure cylinders. The reversing gear is all round type, fitted with a double cylinder engine attached to one of the intermediate back columns. The screws are outward turning and the starting platforms are in the center of the ship.

The cylinders are independent castings and each is supported by four cast steel columns. Each crosshead is fitted with four slippers, which have the corresponding guides fixed on each column. The pistons, cylinder covers and steam chest doors are of cast steel. The piston rods and connecting rods are of Siemens Martin steel. White metal is fitted in the bearings of the connecting rod gudgeons and crank pins and it was very successfully tried.

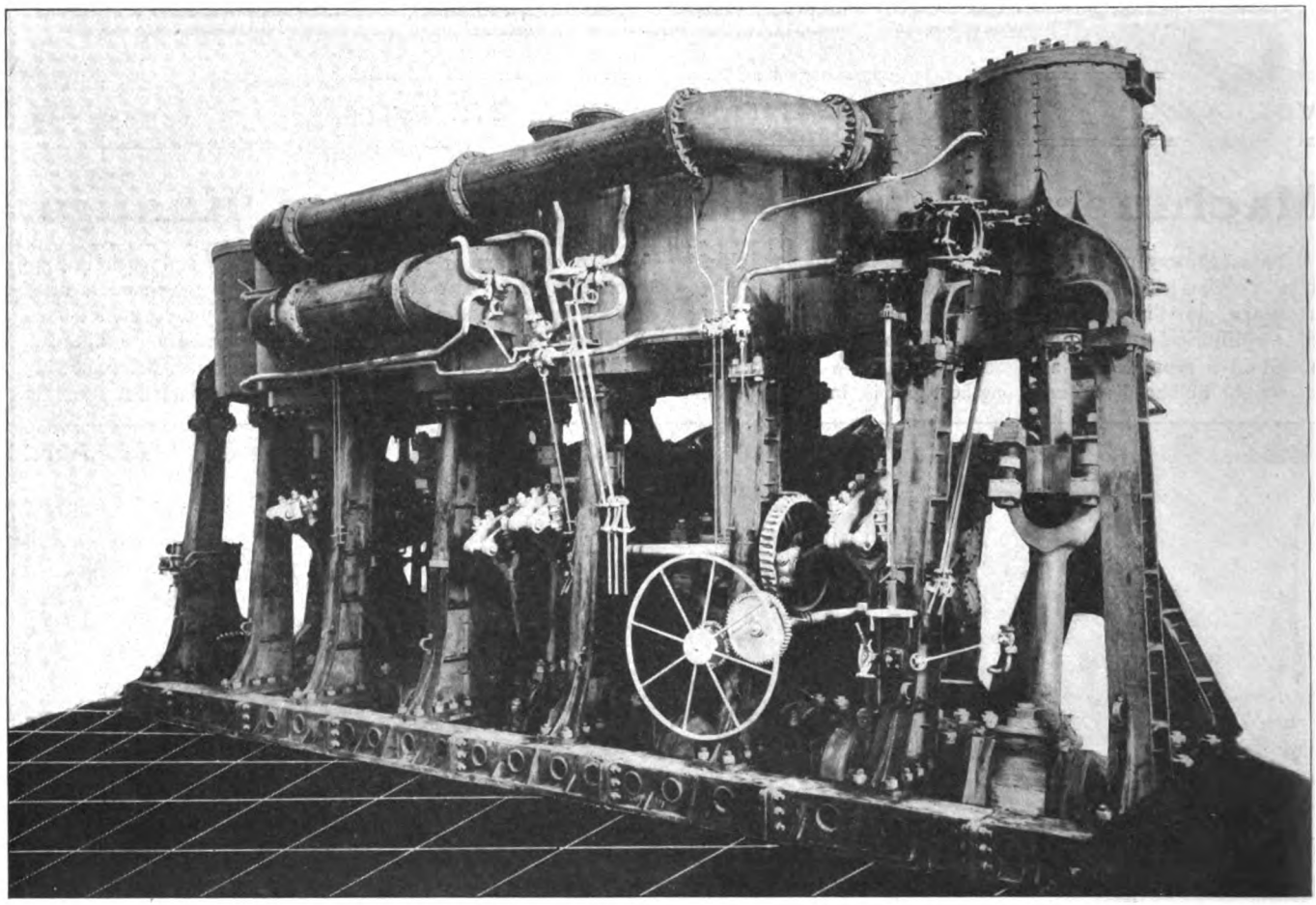
The bed plate is cast steel. The crank shafts are hollow and each consists of three interchangeable pieces 16 in. in diameter at the journals and 8 in. in internal diameter; the crank pins are 16½ in. in diameter, with 8 in. hole and 19 in. long; there are six main bearings with an aggregate length of 113½ in. The propeller shafts are 16½ in. in diameter. The propellers are three bladed; they have a diameter of 16 ft., 6 in. and pitch 23 ft., 4½ in. The bosses are of gun metal and the blades are of manganese bronze.

The main condensers are two separate and placed in the wings; they are cylindrical with shells of steel plate, doors and tube plates of gun metal; the total cooling surface is 14,000

Generated on 2024-07-26 22:33 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

sq. ft. The water is supplied by two circulating pumps each being driven by an independent compound engine. The pumps have a fan 4 ft. in diameter and are each capable of discharging per hour 1,000 tons of water from the bilge. The main air pumps are two worked off the low pressure crosshead, 33 in. in diameter and 21 in. in stroke; there are also two auxiliary air pumps for keeping the wide in the main condensers when the main engines are at rest; they are Black type, 10¼ in. in diameter and 8 in. in stroke. The exhaust steam from the whole of the auxiliary machinery in the ship is led into the auxiliary exhaust pipes, which are connected both with the atmosphere by the auxiliary exhaust pipes carried up the funnel and with the respective auxiliary condensers in either engine room. Each of these condensers has its own air and auxiliary circulating pumps entirely independent of those for Weir's pumps; one duplex steam pump for the drain tank service, two bilge hand pumps, two oil hand pumps, two electric fans for the purpose of delivering fresh aid to the engine room.

As already stated the boilers are of cylindrical return tube type; there are four double-ended and four simplex boilers, the mean diameter being of 14 ft. ½ in. for all the boilers and the length of 18 ft. 9 in. for the double-ended boilers and 9 ft. 9 in. for the simplex boilers. Each of the four double-ended boilers has six furnaces and each of the four simplex boilers has three furnaces; these are Morison's corrugated 3 ft. 7½ in. in internal diameter. The tubes have an external diameter of 2.⅝ in. and the length of 6 ft. 8 in. over all. The boilers are entirely constructed of Siemens Martin middle steel and are tested for the working pressure



MACHINERY OF THE JAPANESE CRUISER NISSHIM.

the main condenser and these are driven by independent engines. The combined cooling surface of these two auxiliary condensers is 1,620 sq. ft. and their tube castings, like those of the main condenser are of steel plate.

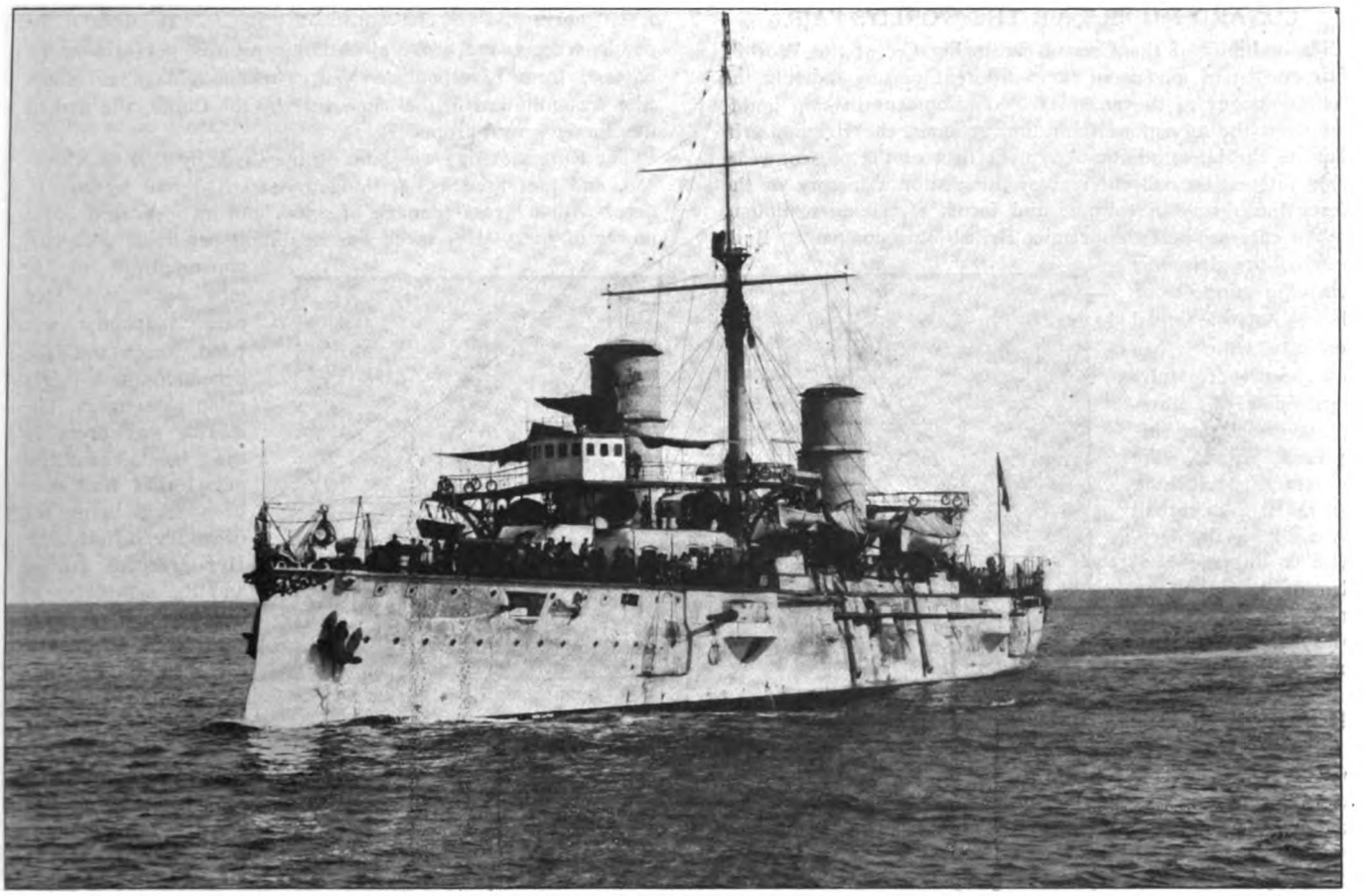
Besides the auxiliary engine already noticed, two double cylinder turning engines are conveniently placed in the aft columns for the purpose of turning the main engines. This is effected by a set of compound worm gearing; these engines are capable of turning the main engines completely round in seven minutes with a steam pressure of 100 lb. and a hand gear has also been arranged for the same purpose.

There are also several auxiliary engines in the main engine rooms to which reference may be made here and before we enter upon a description of the boilers. The distilling machinery for the purpose of furnishing fresh water for the boiler consists of two sets of Niemeyer's evaporator with pumps complete. There are four large vertical fire and bilge of 165 lb. per square inch. The total heating surface of the boilers is 23,700 sq. ft. and the total grate area is 872 sq. ft.

There are in the boiler rooms twelve fans for the forced draft, four in each of the six stokeholds; these are 5 ft. in diameter, each being worked by an independent steam engine.

The forced draft is of the "closed ash-pit" system. There are two funnels, one for the four after boilers and the other for the four forward boilers; they are 10 ft. in internal diameter with the height of 36 ft. from the level of the grate. Six electric ash-hoisting engines, with electric brake and automatic stop gear are also fitted for removing ashes from each of the stoking platforms and discharging them overboard. The feed arrangement for supplying the boilers comprises a main and auxiliary system of pumps and pipes, which are separate and independent of each other. The main feed system consists of two duplex pumps, one being placed in

Generated on 2024-07-26 22:33 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY



JAPANESE CRUISER KASUGA.

each engine room. These pumps draw by independent pipes from the feed tanks and deliver by independent branch pipes one to the after boilers, and the other to the forward boilers, special connection between the delivery pipes allows to feed every boiler with both the pumps. The auxiliary feed system consists of four duplex pumps, placed one in each compartment. These auxiliary pumps are also connected to the main feed tanks by independent pipes, and in addition have separate connections to the reserve fresh water tanks and the sea. Two of the auxiliary pumps discharge to the after boilers and two to the forward boilers.

The feed tanks are constructed one in each engine room to the feed tanks discharge directly all the main and auxiliary air pumps; they are divided in two compartments by an internal sponge filter. There are also two Niemeyer's filters fitted in the delivery pipes of the main feed pumps.

The main steam supply is conveyed by four lines of steel steam pipes, two lines being arranged on each side of the ship, one forward and one after the engine rooms, and these are each entirely independent of the other, as are also the connecting pipes from the boilers of each of these lines. Any boiler may therefore be cut off from the system without interfering with the performance of the others in the compartment, as may also any compartment from which one of these main steam pipes lead without affecting the efficiency of the other compartment. Any boiler may supply steam to any of the engines.

We may state here that in the official trials everything worked very satisfactorily. The mean results attained were: for the Kasuga 14,900 I. H. P. with 106.26 mean revolutions per minute in the 1½ hours' forced draft trial, with an air pressure of 1½ in.; for the Nisshin 14,931 I. H. P., with 106.51 mean revolutions per minute, in the 1½ hours' forced draft trial, with an air pressure of 1½ in.

The mean speed for both the ships was of 20,152, knots. In the 6 hours' natural draft trials the mean power attained was of 10,650 I. H. P. with 95 mean revolutions, while the coal consumption was 1.58 lb. per indicated horse power per hour; the mean speed achieved was of 18.84 knots.

The vessels were built by Gio Ansaldo Armstrong & Co., Genoa, Italy.

NATIONAL BOARD OF STEAM NAVIGATION.

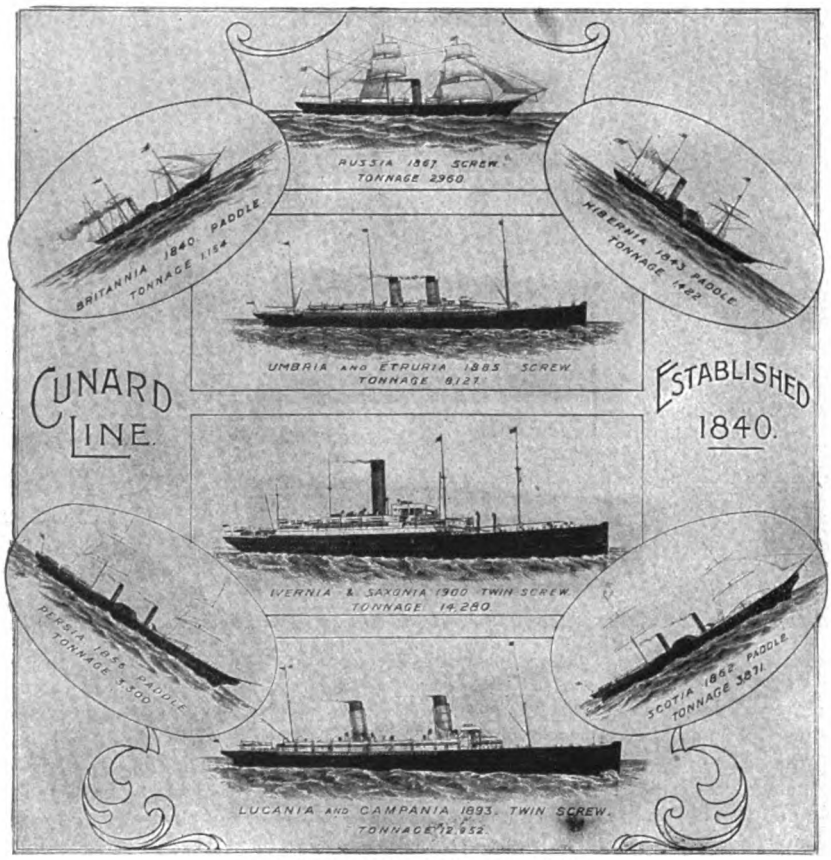
The thirty-third annual meeting of the National Board of Steam Navigation was held in Philadelphia last week. The following officers were elected: James A. Henderson, president, Pittsburg, Pa.; Fred B. Dalzell, first vice-president, New York; W. K. Kavanaugh, second vice-president, St. Louis, Mo.; J. Frank Tilley, treasurer, Pittsburg, Pa.; Frank G. Osborn, secretary, New York. Executive committee: H. L. Joyce, chairman, New York; G. F. Evans, Portland, Me.; T. I. Winsor, Boston, Mass.; C. W. Woolsey, New Jersey; F. A. Churchman, Philadelphia; Horace Wilson, Philadelphia; Oscar Barrett, Cincinnati; William Marmet, Cincinnati; W. W. Hite, Louisville, Ky.; Robert E. Lee, Memphis, Tenn.; T. G. Ryman, Nashville, Tenn.; Elmer E. Wood, New Orleans, La.; D. B. Blackburn, Pittsburg, Pa.; W. H. Crump, Pittsburg, Pa.; Wm. H. Lehre, Jr., St. Louis, Mo.; W. B. Pollock, New York; W. L. Guillaudeu, New York; Michael Moran, New York; Robert Rogers, New York; George L. Norton, New York; H. O. Nickerson, New York; H. C. Davis, New York; Fred Coykendall, New York; E. P. Foster, New York; C. H. Boyer, New York; J. G. Emmons, New York; Frederick Russell, Flushing, N. Y.; H. L. Des Anges, Long Island City, N. Y.; P. H. Marshall, Staten Island, N. Y.

President Hyde of the Bath Iron Works has announced that a final decision has been reached to launch the battleship Georgia, Tuesday, Oct. 11, at 1 p. m.

Generated on 2024-07-26 22:33 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

CUNARD MODELS AT THE WORLD'S FAIR.

The exhibits of the Cunard Steamship Co., at the World's Fair consist of models of their different vessels showing the various stages of the progressive development in ship building from the advent of their first steamer, the Britannia, in 1840, to the latest additions to their fleet of the present year. This interesting collection gives the visitor a history of the Cunard company in epitome and forms a striking testimony to the enterprise of the premier British ship company. Built in 1840, the Britannia was the pioneer of their Atlantic mail service, which has now been successfully performed by subsequent vessels for sixty-four years. She measured 207 ft. long by 34 ft. 4 in. broad by 24 ft. 4 in. deep, with a tonnage burden of 1,154 and an indicated horse power of 740. Her cargo capacity was 225 tons, and she was fitted for the accommodation of 115 cabin passengers, but no steerage. Her average speed was 8.5 knots per hour on a coal consumption of 38 tons per day. She started on her maiden voyage from Liverpool to Boston on July 4, 1840—the celebration day of American independence—and attracted universal attention and admiration, while her arrival in America was the occasion of unbounded enthusiasm.



CUNARD MODELS AT THE FAIR.

The Hibernia was added to the fleet in 1843 (and a sister ship, the Cambria, in 1845). The Hibernia was of greater dimensions, more extensive passenger and cargo capacity, and attained a somewhat higher speed than her predecessors. She was 210 ft. long by 35 ft. 9 in. broad by 24.2 ft. deep; of 1,040 I. H. P., and of 1,422 tons, with an average speed of 9.25 knots.

The Asia marked a new development in the history of the Cunard business rather than in the progress of naval engineering. She was, structurally, like all her predecessors, a wooden, paddle-wheel vessel, but of larger size and correspondingly greater engine power, besides being fitted with the latest improvements for the comfort and convenience of passengers. She was 266 ft. long by 40 ft. broad by 27 ft. 2 in. deep, of 2,400 I. H. P. and 2,226 gross tonnage, with an average speed of 12.5 knots.

The Persia (1855) was a magnificent iron paddle steamer of 3,307 tons burthen, and 4,000 I. H. P., with accommodation for 250 cabin passengers. She was among the earlier iron ships of the Cunard company, and at once became the favorite and most successful steamer upon the Atlantic. Her measurements were 376 ft. long by 45.3 breadth of beam by 31.6 depth, and her average speed 13.8 knots per hour.

The Scotia (1862), length 379 ft., tonnage 3,871 tons, speed 14.4 knots, was a distinct improvement upon all previous efforts of marine ship building, and acknowledged to be the finest mercantile vessel then afloat. She was the last of the paddle-wheels, and broke all Atlantic records, performing the passage from Liverpool to New York in 8 days 22 hours. She was followed in the same year by the China, the first of the single screw propellers.

The Russia (1867) was built on the Clyde by J. & G. Thomson, and measured 358 ft. long by 42.6 ft. broad by 29.2 ft. deep, with a gross tonnage of 2,960, and an indicated horse power of 3,100. Her speed was 14.4 knots per hour, on a coal consumption of 90 tons per day. Her cargo capacity was 1,260 tons, and she accommodated 235 cabin passengers. The Russia was probably the most beautiful vessel that had ever been seen upon the ocean up to that time. Her graceful outline and the symmetry of her proportions were considered by nautical men to be perfect; while the elegance of her interior decorations and general accommodation soon gained for her a reputation for comfort and luxury. It may be noted in passing that her commander, Capt. Cook, navigated this vessel 630,000 miles on the Atlantic in all weathers without accident or break-down of any kind, and safely carried to and fro 26,076 cabin passengers.

The Gallia (1879) was one of the finest of the early screw steamships worked by compound engines, an invention that utilized steam at a far higher pressure and produced equal to or better speed results on a much smaller consumption of fuel. She was of 4,808 tons and 5,300 I. H. P., with an average speed of 15.5 knots per hour. Her measurements were 430 ft. long by 44.3 ft. broad by 36 ft. deep.

The Umbria, built by Messrs. Elder in 1884, and followed in 1885 by her sister ship, the Etruria, identical in all particulars, was considered the greatest triumph of the science of modern ship building. Her dimensions are: Length, 500 ft.; breadth, 57.3 ft.; depth, 40 ft.; with a gross tonnage of 8,127 tons. She is a five-decker, the promenade deck, extending over the full breadth of the ship for nearly 300 ft. amidships, is reserved for first-class passengers. The interior accommodation and the beauty of her decorations made her one of the wonders of the age, and she has proved one of the most reliable and successful vessels afloat. She is furnished with steam steering gear, is divided into watertight compartments, and is fitted with waterproof and fireproof doors. The compound engines indicate upwards of 14,500 H. P. Speed, 19½ knots per hour.

The Campania, together with her sister ship, the Lucania, performs the fastest mail service between England and America, and in addition to this distinction both vessels are models of artistic luxury in the beauty of their decorations and the extreme comfort of their passenger accommodations. Her

Generated on 2024-07-26 22:33 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

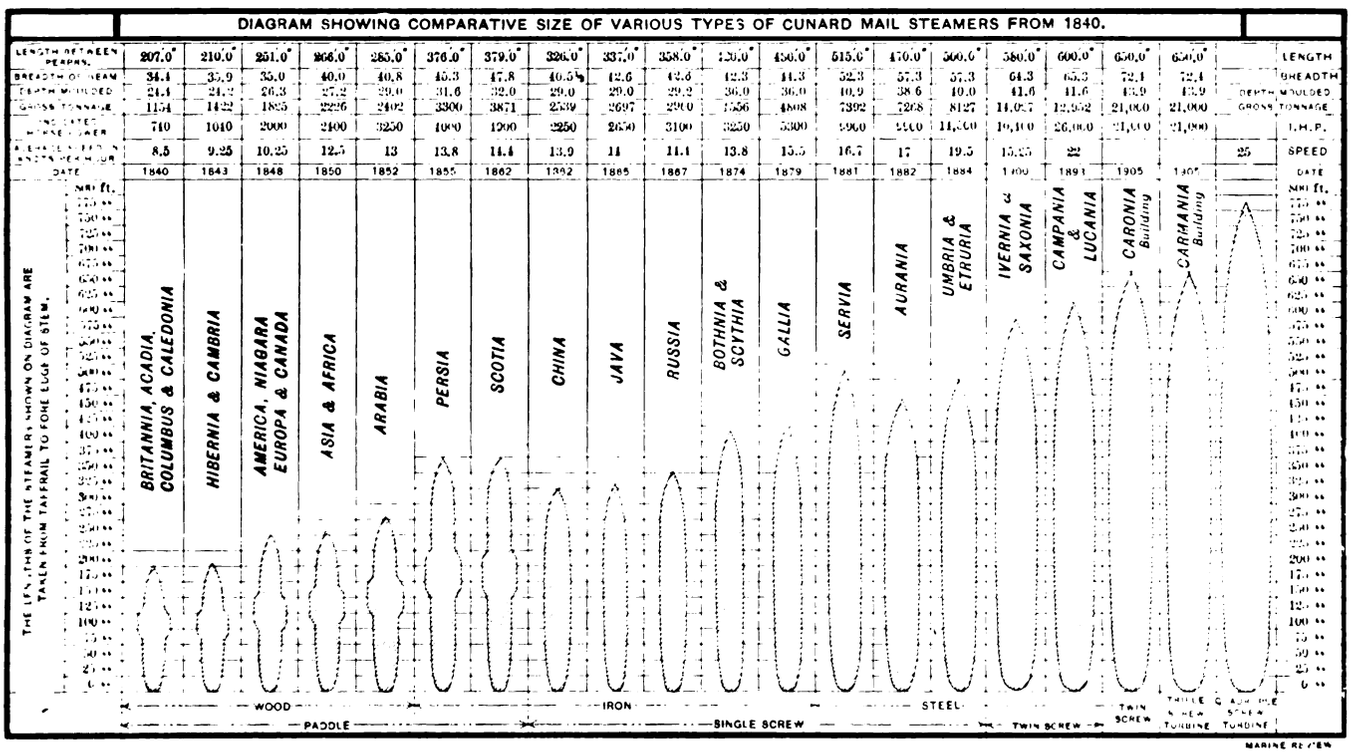
dimensions are: Length over all, 620 ft.; breadth, 65 ft. 3 in.; depth, 43 ft.; gross tonnage, 12,950 tons. Her fastest passage between Queenstown and New York was performed in 5 days 9 hours 6 minutes, only eclipsed by the record of the Lucania, which is 5 days 7 hours 23 minutes. The grand saloon in the modified Italian style is 100 ft. long by 63 ft. wide, with seating accommodation for 430 passengers. The vessel has sixteen watertight bulkheads, and is fitted in accordance with admiralty requirements for armed cruisers in time of war.

The Invernia and Saxonia are practically alike in the main points of construction and general arrangement, but differ somewhat in detail. They are the largest and steadiest ships carrying passengers and cargo to Boston. They are built of steel, with scantlings in excess of Lloyd's rules, and have a straight stem, elliptical stern, and a long midship house supporting three tiers of superstructures. They carry a single funnel and four pole masts. They have bilge keels, which give them absolute steadiness in the water, and a false bottom, between which and the outer shell are water-ballast tanks, extending the whole length of the ship. Deep tanks are also fitted fore and aft, and altogether over 4,700 tons of sea water can be carried, besides an immense quantity of fresh water. Eleven bulkheads divide the ship into twelve watertight compartments. The principal dimensions of the ships are: Length 600 ft., beam 64 ft., and depth molded 49 ft. 6 in. Speed 16 knots. The gross tonnage is 14,280 tons, the measurement capacity 20,000 tons, while the displacement is no less than 25,000 tons. When fully loaded there remains a freeboard of 18 ft. to the upper deck and 26 ft. to the shelter deck, which forms part of the main structure of the ships. In their ordinary work across the Atlantic they carry 200 first, 220 second and about 1,900 third class passengers. If engaged in trooping each ship could carry 203 officers and 3,500 men, together with 10,000 tons of stores; or, if transporting cavalry, 200 officers, 1,000 men, 1,000 horses, and still 10,000 tons of stores. Besides these "record" burdens they could carry sufficient coal to run 12,000 miles at an average speed of fifteen knots. If we include the deck of the flying bridge, on which is placed a small wheel house, the ships have no fewer than nine floors or storeys. The features of the ships, next to their huge size, are the spaciousness and comfort of their passenger accommodation. Their steadiness is a marvel, and is testified to by everyone who crosses in them, for in the strongest gales no discomfort is experienced and sea-sickness is almost impossible.

The Slavonia is a fine new twin screw vessel of 10,005 tons gross. She is a handsomely proportioned craft, and admirably adapted for the New York-Adriatic and Mediterranean service, for which she is specially fitted. She does the voyage from New York to Trieste, via Naples, including calls at her various ports, in 15 or 16 days, and has already proved herself popular with passengers, her excellent accommodation and steadiness at sea being appreciated by all who have traveled in her.

The Caronia and Carmania mark the latest development of the transatlantic steamer fitted with luxurious accommodation for large numbers of passengers and having a big capacity for cargo. These 21,000-ton steamers, though sisters in size and speed, differ in the respect that while the Caronia will be propelled by engines of the reciprocating type driving twin screws, the propulsive power for the Carmania will be derived from turbine engines whose power is distributed through three shafts, each of which drives one propeller. The enormous dimensions of these vessels, length 675 ft., breadth 72 ft. 4 in. and depth 43 ft 9 in., insure commodious passenger quarters, while the comfort and luxury of the appointments will satisfy the most fastidious taste. The speed of the Caronia and Carmania, while less than that of the vessels of the Greyhound class, will enable them to make the voyage between Queenstown and New York in 6½ or 7 days, while their great size will insure that they will keep time, irrespective of weather, with the precision of the average railway train.

The express turbine steamers will be unequalled in size and speed. They mark the latest step in linking the two great Anglo-Saxon nations separated by the North Atlantic. They will represent all that is superlative in naval architecture, in marine engineering and in luxurious hotel accommodation, for these vessels will be, so far as their passenger quarters go, palatial hotels in every respect, embodying the resultant of that long experience which the Cunard company have



Generated on 2024-07-26 22:34 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

gained in carrying passengers between the two great English speaking countries. Glance at the first model depicted in this booklet, that of the diminutive Britannia, in her day the finest ship afloat. Sixty-four years have elapsed since this pioneer Cunarder first cleaved American waters, and a greater contrast than will be presented by that of the Britannia and the 25-knot steamers cannot be imagined. The evolutionary process has been a gradual one, and it is only by comparing the first and latest vessels of the line that it is possible to realize the vast progress which has been made, a progress in which the Cunard Line have ever been in the front. Each of these 25-knot steamers will be from twenty-five to thirty times the gross tonnage of the Britannia and eighty-five to ninety times the power. But apart from size and speed and appointments these vessels attract universal attention on account of their rotary or turbine engines. These will enable the new flyers to make the voyage between Liverpool and New York in a little more than one-third of the time occupied by the Britannia, while along any one of their turbine-driven shafts will be transmitted six times the total horse power developed by the engines of the whole pioneer Cunard fleet of four steamers. During the experimental stages of applying the steam turbine to ships, some difficulty was experienced in the matter of maneuvering, reversing, going astern, etc. This obstacle to complete success has now been obviated, and the new vessels will be able to come to a dead stop from full speed in as short a time as if driven by reciprocating engines, while their maneuvering power will be unsurpassed by any steamers afloat. The adoption of rotary engines means increased speed for the same boiler power, due to reduced weight of machinery and increased economy in steam; an utter absence of all vibration, and hence greater comfort, while the smaller engine room spaces and openings will insure commodious passenger quarters and promenade space. The mere fact that the Cunard directorate have adopted, on the best expert advice, the steam turbine, is proof positive that the rotary engine is the marine engine of the future, and it is quite in keeping with Cunard traditions that they should have decided upon the system only after thoroughly convincing themselves that the steam turbine possesses economical advantages over the reciprocating engine, and that it is an efficient, reliable and safe system of propulsion.

MOTOR BOAT TO CROSS THE OCEAN.

Mr. S. F. Edge, the famous English motor boat builder, has given out a most interesting interview in London concerning the probability of motor boats crossing the Atlantic ocean. A French enthusiast on auto boat construction, M. Charley, has offered a prize of $10,000 for the first motor boat to cross the ocean.

"Whether M. Charley was serious or not when he made his prize offer to the first man to cross the Atlantic in an automobile boat, I think one of us will get his 50,000f.," said Mr. S. F. Edge. "Accidentally I happen to have a boat under construction that meets all the transatlantic requirements; in fact, one of the stipulations of the contract was that she should cross the ocean on her own keel. The American gentleman who ordered her does not wish any publicity, but I have written to ask his permission to compete for the prize offered by M. Charley. The boat in question was ordered eight months ago and it will be finished in March. I shall not attempt to cross in that month, but will wait for the summer weather. With the wireless weather reports of the transatlantic liners it is now possible to have some assurance of weather conditions. I admit that in a head sea we could hope for little more than 10 knots an hour, while in a gale we should have to heave to with sea anchors. The boat we are building will have two steadying masts which could carry sail, although she is designed for motor power exclusively." "What about the fuel problem "

"That will be solved by having the entire ballast of the boat consist of petrol. As the petrol is needed it will be replaced by water. Two and one half tons of petrol will take you a long way under moderate power. The suggestion that motor boats can be met by supply vessels in midocean is utterly impracticable, even if money were no object. Motors are growing lighter per horse power each year, and therein lies the surety of success of automobile boats. We are now making one hundred horse power motors that weigh only five hundred pounds. So far naval designers have not helped us much. We have been working toward the right type of hull by ourselves."

INTERNATIONAL CONGRESS OF NAVIGATION.

The tenth International Congress of Navigation will be held at Milan, Italy, from Sept. 24 to 30 of next year under the patronage of the king of Italy and the duke of Genoa, admiral of the royal Italian navy. The congress of Milan will be the tenth congress of navigation, as stated, but the first instituted by the Permanent International Association created at Desselfort in 1902. This association, which has been subsidized by twenty-four states and by a great number of towns and technical and commercial associations, comprises members all over the world and has become of great importance. Since the year 1885, the date of their foundation, the congresses of navigation have been held on nine different occasions in Belgium, Austria, Germany, England, France and Holland, at the special and official invitations of the governments of these different countries.

The program of papers at the Milan congress will be an extremely valuable one and in addition scientific excursions have been arranged to the great industries of Italy. The representatives of the United States by appointment of the state department to the permanent national congress are Gen. Charles W. Raymond, Major J. C. Sanford, corps of engineers, U. S. A.; E. L. Corthell, 1 Nassau street, New York, and John Bogart, 40 Wall street, New York. Mr. Corthell had some 200 copies of the program of the International Navigation Congress sent to him for distribution to those who are not permanent members of the congress of navigation. Copies may be procured by addressing him. He has also the circulars for admission to membership in the congress, which will be sent by him to any one interested.

The Puget Sound Dry Dock & Machine Co.'s property at Tacoma, Wash. will be sold at public auction on Nov. 23. The dock is known as Quartermaster Harbor dry dock and was built in 1892 by R. W. De Lion at Port Hadlock, Wash., and towed to Quartermaster harbor. The dry dock is 325 ft. long, 100 ft. wide and 11 ft. deep, divided amidships into two compartments, which are subdivided by five transverse builkheads, making twelve compartments. There are six centrifugal pumps connected direct to six Westinghouse engines. Each pump handles two compartments. The dock is in first-class condition.

The 70-ft. auto boat, Speedway, built and owned by the Gas Engine & Power Co. of Morris Heights, N. Y., and operated by Mr. Charles L. Seabury of the company, crashed into a stone abutment of the Putnam bridge in the Harlem river last week and was almost completely demolished. Mr. Seabury, who was in the front of the boat steering, together with the engineer, were thrown into the water but were rescued without difficulty. The accident was due to the breaking of the steering apparatus of the auto boat. The Speedway was built to run 40 miles an hour and for the last week Mr. Seabury had been conducting a series of speed tests with her.

Generated on 2024-07-26 22:34 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

LIVERPOOL SHIPPING LETTER.

Liverpool, Sept. 12.—There have been no new developments this week in the North Atlantic rate war, and the various companies continue to carry steerage passengers across the Atlantic ocean, at rates varying from $7 to $12 according to class of steamers. Nor is there anything fresh likely to occur in the near future, so far as one can judge, although there is some speculation as to whether the Cunard company is not waiting to inflict another blow on their German rivals by cutting the westward-bound cabin rates in the same way that they reduced those for the eastward voyage. For the present the westward-bound traffic continues heavy and for weeks ahead the liners are fully booked for saloon berths, the Cunard vessels especially being well filled every voyage, and until this rush of returning Americans is over, the westward rates are likely to be kept at their present figure. Nothing further has been heard of the rumor, I noted last week, that there was a likelihood of another conference being held between representatives of the Cunard and German lines with the object of trying to settle the disastrous struggle. Undoubtedly it is costing the various companies considerable sums, although it can hardly be believed, as has been stated in some quarters, that the loss to the belligerents is $2,000,000 per week. Still the difference between the ordinary and reduced rates must mean an immense loss. Nevertheless, it is claimed by an authority that even $7 or $10 will cover the actual out-of-pocket expenses incurred in regard to each steerage passenger, and that it is better on the whole to have passengers at those rates than have the berths empty. The fact at any rate seems to indicate that for the present, a further conference is not contemplated, and that is the departure this week of Mr. J. Bruce Ismay, president of the International Mercantile Marine Co. for America. It will be remembered that he was present at the last conference at Frankfort, and there is not the slightest doubt that he will be at the next one, whenever it is held. In the meantime, it is stated that Mr. Ismay's voyage to the United States on the Oceanic is for the purpose of effecting new economies in connection with the management of the combine.

As I have pointed out in a previous letter, the North Atlantic passenger traffic, despite the low steerage rates that have been ruling this year, shows a considerable falling off when compared with the traffic for last year. This is now borne out by official figures to hand, which give the total passengers up to the first week in August as 860,774, against 911,740 in the corresponding period of last year, a decrease of 50,966. This year the total for the United States was 555,636, whilst 305,138 came from the States to this country. Last year westward-bound passengers numbered 683,566, and the homeward-bound 218,174. With regard to the number of emigrants who left the port of Liverpool during the first eight months of this year, there were no fewer than 172,382. In August the total was 33,102, of whom 24,092 went to the United States, 7,079 to British North America, and 291 to Australasia.

It is reported here that the Holland-American Line have decided to equip six of their Atlantic liners with Marconi's system of wireless telegraphy, namely, the Rotterdam, Potsdam, Amsterdam, Noordam, Maasdam, and a vessel now building.

There is just now said to be some heavy foreign traffic going through the Manchester ship canal. At this time of the year a lull usually occurs in ship canal traffic to and from Manchester, consequent to some extent upon the interval between the first arrivals of cotton and the end of the timber season. So far from this being a quiet period, however, says one authority the docks have been the scene of continued activity for many weeks, due no doubt to the heaviness of the foreign traffic, a prominent feature of which has been the great number of timber vessels. Timber has never before been shipped to Manchester in such large quantities, and though the season is about finished at many other ports, Manchester is still receiving, and is likely to receive for some time yet, heavy cargoes from North America, Canada, and Baltic ports. In this connection, Mr. R. B. Stoker, the managing director of the Manchester Liners, Ltd., who has recently returned from a business tour in America has expressed himself as very confident as to the future of the ship canal. It is bound to pay in the end, is his emphatic declaration.

The following are returns of the traffic on the Suez canal for the month of August and the first eight months of the last three years:

	Month of August 1904.	1903.	1902
Ships	317	297	283
Receipts	8,020,000 frs.	8,380,000 frs.	8,020,000 frs.

	Eight months of 1904.	1903	1902
Ships	2,701	2,404	2,564
Receipts	74,494,715 frs.	67,750,209 frs.	70,750,579 frs.

The return of shipping for the month of August, issued by the British Board of Trade, shows that the tonnage of ships entering British ports during the month amounted to 3,719,805 tons, while the tonnage cleared was 4,193,214 tons, these figures respectively comparing with 3,732,702 tons entered and 3,902,703 tons cleared during August last year. Of the shipping entered last month, British ships represented 2,503,600 tons, and foreign ships 1,216,205 tons, and of the clearances British ships represented 2,749,372 tons, and foreign ships 1,443,842 tons. For the eight months of this year to date the tonnage of ships entered amounts to 26,411,677 tons (British, 18,292,338 tons; foreign, 8,119,339 tons) and clearances to 32,064,211 tons, (British, 21,108,565 tons; foreign, 10,955,646 tons). These latter figures show an increase, compared with the returns for the similar period last year of British entrances, 501,081 tons, foreign 25,354 tons; British clearances, 480,038 tons, foreign, 442,483 tons.

A new service of steamers is about to be started by Finnish steamship owners between Hull and Canada, and thereby compete with British shipowners for the Canadian trade. The Hektos is the first vessel fixed to load at Montreal, for Hull, and it is intended other steamers will follow on the berth. The question of a Hull-Canada service has been talked about for many years, and so it will be of interest to watch the progress of the new development.

This reference to east-coast shipping matters reminds me that the rate war between the Wilson Line and a Moscow firm, which has been carried on for some time is now ended. The passenger rate to St. Petersburg was reduced by the Hull firm, and the Russian firm retaliated by reducing $45 fares to $25. The settlement is a mutual one, and now the old fares of $30 single, and $50 return are restored. At one time the competition was so keen that the fares sank to $15 and $25. London rates will be altered accordingly in due course.

The retirement of Capt. Lindsay from the command of the White Star royal mail liner Celtic has led to many other changes in the officering of the White Star liners. Capt. J. B. Ransom, of the Arabic, has succeeded Capt. Lindsay in the command of the Celtic. Capt. Ransom joined the White Star Line in 1891. Previous to this, he was in the service of the British Shipowners' Co., and the Pacific Steam Navigation Co., and during his connection with the White Star Line, he has held the command of the Ionic, then the Arabic, and now the Celtic. The command of the Arabic has been given to Capt. Plaskett Thompson, who has been transferred from the Cymric, while the command of the Cymric has been taken over by Captain Thomas.

It is being circulated here that the North German Lloyd Co. is determined to try and hold the premier place it has

Generated on 2024-07-26 22:34 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

won for record breaking ships on the North Atlantic, and has ordered from the Vulcan company of Stettin, a ship which is designed to go one better than the two new express turbine Cunarders now building. The keel of this ship is said to have been already laid, but beyond the fact that she is to be a very big vessel, no particulars as to her construction have been allowed to transpire. Whether she is to have the ordinary reciprocating engines or steam turbines is not yet known.

The directors of the Canadian Pacific railway, in the course of their annual report for the year ending June 30, include the following: The net earnings of the Atlantic Steamship Line amounted to about $200,000 for the first six months; but this profit was practically absorbed by the shrinkage in net revenue during the last half of the year, due to the demoralized state of the Atlantic trade. Nevertheless, the steamship line has, as was anticipated, proved a valuable auxiliary to the railway. The revenue and expenses are not taken into the accounts for the year; but the interest on the debenture stock, issued for the purchase of the vessels, is included in the fixed charges. It is desirable that the directors be authorized to arrange for the construction of two additional passenger steamships with a sea speed of about 18 knots per hour and ample cargo capacity. These will be useful and profitable ships on the Atlantic, and they will be admirably adapted to the company's Pacific trade if, at a later date, the company should determine to replace them on the Atlantic with a fleet of larger and faster vessels.

SCOTCH SHIPPING LETTER.

Glasgow, Sept. 8.—Some orders for new vessels were placed with Scottish ship builders during August, but nearly all of comparative small tonnage. The total bookings of the month add less to the work on hand than the deficiency caused by recent launches. The only orders of special interest are those for turbine steamers, which Denny & Bros. have received. Apart from these, the total of 30,000 tons is made up of a few cargo steamers, some river vessels, ice-breakers and trawlers. Most of the Port-Glasgow and Greenock yards are pretty brisk, but the slackness in some of the upper yards continues, and in one case all the hands, except the foremen, have been discharged.

Denny & Bros.' new turbine steamers number three, two of 1,670 tons each for the South-Eastern and Chatham Railway Co. and one 400 ft. in length for the Union Steamship Co. of New Zealand. Fleming & Ferguson, Paisley, are to build two ice-breakers for the Canadian government for use on the St. Lawrence; Mackie & Thompson two large trawlers, one for Nantes owners and another for Ostend owners; the Grangemouth & Greenock Co., a sailing barge of 1,000 tons deadweight for the River Plate; Murdoch & Murray, Port-Glasgow, a large twin-screw steamer for service on the Amazon; John Brown & Co., Clydebank, two paddle steamers for an English railway company; A. Rodger & Co., Port-Glasgow, a steamer of 7,000 tons cargo capacity for Glasgow owners; Wm. Hamilton & Co., Port-Glasgow, a cargo steamer for Melbourne; John Fullerton & Co., Paisley, a light draught steamer for the River Plate; R. Duncan & Co., Port-Glasgow, a large cargo steamer; Scott & Co., Kinghorn, two steamers for Buenos Ayres; and the Dundee Ship Builders' Company, a water-tank steamer.

There were twenty-four launches in August, and a total of 32,011 tons. In July the total was seventeen vessels of 33,879 tons, and in August, of 1904, thirty-four vessels of 73,585 tons. The total for the eight months is 267,523 tons, as compared with 209,341 tons in the first eight months of last year. The eight months' total is the lowest since 210,362 tons in 1897. Up to last year there was an almost continuous increase, but now the effect of the lack of orders is telling.

The Clyde output during August was twenty-two vessels of 29,996 tons, as compared with thirteen of 32,869 tons in July and twenty-five of 69,018 tons in August of last year. The great bulk of the tonnage came from lower-reach yards, Port-Glasgow and Greenock contributing 15,994 tons. The details were as follows:

Vessel.	Tons.	Builders.	Registry.
Ghazel (s. s.)	5,000	Russell & Co.	London
Martaban (s. s.)	5,000	W. Denny & Bros.	Glasgow
Cape Breton (s. s.)	4,000	Russell & Co.	Glasgow
Gladiator (s. s.)	3,230	C. Connell & Co.	Liverpool
Wimmera (s. s.)	3,100	Caird & Co.	Melbourne
H. M. S. Forward	2,850	The Fairfield Co.	Brit. Gov.
Silvia (s. s.)	2,030	The Clyde Co.	Glasgow
Khargpur (p. s.)	1,500	The Caledon Co.	Bengal
Prospero (s. s.)	978	Murdoch & Murray	Liverpool
Emerald (s. s.)	736	A. Rodger & Co.	Glasgow
Kyanite (s. s.)	700	J. Shearer & Sons	Glasgow
Tryst (s. s.)	580	Ailsa Co., Troon,	Glasgow
Minnie Hinde (s. s.)	515	The Caledon. Co.	Belfast
S. Barbara (lighter	465	Barclay, Curle & Co.	Liverp'l
S. Helena (lighter)	465	Barclay, Curle & Co.	Liverp'l
Vigilant (s. s.)	280	Mackie & Thompson	Hull
Nathaniel Dunlop (s. s.)	150	G. Brown & Co.	Glasgow
Swift (s. s.)	130	J. Fullerton & Co.	Ipswich
Ailsa (s. s. lighter)	70	W. Denny & Bros.	Glasgow
Garmovle (s. s. lighter)	70	W. Denny & Bros.	Glasgow
Steam Barge	138	Ritchie, Graham & Milne,	[Egypt
Mallale (t. s.)	56	" "	[D'm'rara
Steam launch	7	" "	[Egypt
No. 142 (t. s. tug)	21	W. Chalmers & Co.,	Foreign

A steamer has left Port-Glasgow with several boilers, constructed for service at Sheerness docks, made by the Clyde Ship Building & Engineering Co. This firm, who will launch during next week a steamer they have on hand, besides building have a good deal of repair work to do. The steamer Induna is receiving new boilers and engine overhaul, and the coasting steamer Dunard is awaiting a new condenser. A further large amount of repair work is expected. This firm are also busy with the construction of four ships' engines for Port-Glasgow builders.

A series of demonstrations were made on board the steam trawler Banffshire, with Stewart's new marine economizer last week, when the vessel was eight hours at sea each day. On the first day the party consisted of forty gentlemen, many of them engineering experts and those interested in shipping. On the second day, in order to verify the results obtained on the previous day which the overcrowding of the engine and boiler rooms made it difficult to obtain with exactitude, a smaller party was taken. The Banffshire is the first vessel on which the installation has been made complete up to date, and the results obtained were in every way satisfactory, the temperature of the feed-water delivered to the boiler being maintained at 260 degrees Fahr., as against 145 degrees without the economizer, and the engines running at the same number of revolutions per minute with and without the economizer, the vacuum in the former case being 26 in. and in the latter 23, and the speed of the ship as shown by the log being equal in both cases. The tests on the second day were left entirely in the hands of three independent members of the party. The tests yielded as a result an absolute saving of 28 per cent. and that on a vessel much more easily steamed and coaled than the vessels previously fitted with the economizer. The makers have in hand a complete installation for a large cargo steamer for a Greenock firm.

The British government's attitude with regard to contraband of war has eased risk rates decidedly. For instance, the cargo of a British steamer was insured with the vessel for £100,000 against war risks, and was reinsured for ten guineas per cent, but the price has now declined to five guineas. This

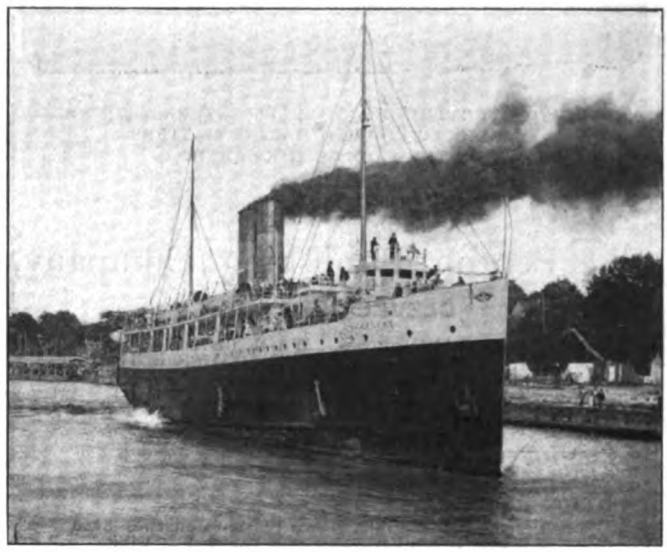
Generated on 2024-07-26 22:34 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

reduction is chiefly due to Mr. Balfour's statement that two British cruisers had been ordered from the Cape to search for the Smolensk and Petersburg, the former Russian cruiser being in the neighborhood of a British steamer bound for Japan. The danger of the British vessel being sunk or captured by the Russians is materially less, but that she is not altogether out of danger is apparent as the original rate which was paid at the time when there was no special apprehension as to the vessel's safety was 1 per cent. As to the statements which have been made that British steamers were charged three or four times as much for war risks as is paid for German steamers, it is not the case at Lloyd's. German steamers are treated practically on the same footing as those belonging to British owners.

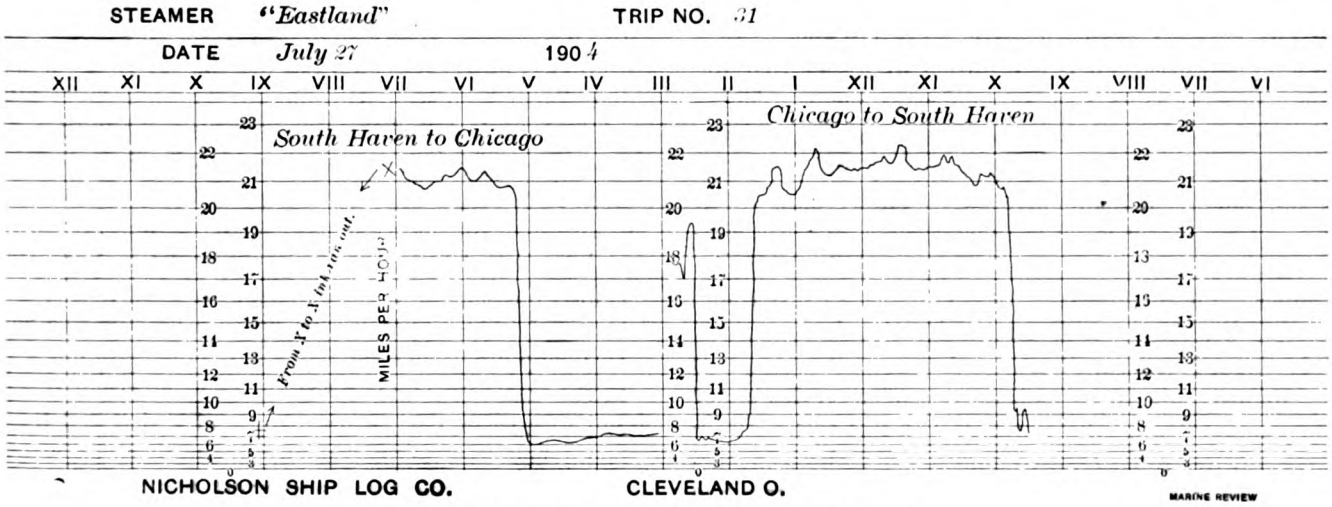
The Loss Book at Lloyd's has again been light. Losses during August, however, were frequent, and considering the time of the year settlements for that month were heavy. This state of things would not be serious if it had the effect of stiffening premiums, but there seems to be no prospect of improved rates. A casualty to the British steamer Arabistan, from the River Plate, ashore near Balembouche, is reported. She was built at Glasgow in 1893 by A. Stephen & Sons, is of 3,174 tons, and is owned in London by Messrs. Bucknall Nephews. The steamer is insured for £30,000, and underwriters are awaiting fuller particulars of the mishap. The report of the collision between the German steamer Lissabon and the German ship Preussen, at Hamburg, though not of a serious character is of interest as the Preussen is the largest sailing vessel afloat. She is a steel five-masted ship of 5,081 tons, built two years ago at Geestemunde, and is owned at Hamburg. The ship alone represents an investment of £60,000, is probably the highest value of any modern sailing ship.

STEAMER EASTLAND'S FAST RUN.

One of the interesting things in the race between the City of Erie and the Tashmoo from Cleveland to Ashtabula was the working of the Nicholson ship log on board the City of Erie. The log continuously registered on the card the speed that the Erie was making and it proved a matter of the utmost satisfaction to those on board. There is published herewith a facsimile of the card registered by the Nicholson ship log on the steamer Eastland of the Michigan Steamship Co.'s fleet when she made the run from Chicago to South Haven in 3 hours, 44 minutes, a distance of 79½ miles. It will be noted from the card that the speed of the steamer very rapidly worked up to 21 miles and was practically maintained at a 21-mile rate, reaching for a brief period the speed of 22 miles. The Eastland was not in any special trim on this occasion and had, moreover, a good crowd of passengers aboard. This card proves conclusively that the Eastland is a mighty fast steamer, one of the fastest on the lakes in fact. She was built in 1903 by the Jenks Ship Building Co. for the Michigan Steamship Co. of South Haven, Mich. She is 275 ft. long, 38 ft. beam and 22 ft. 8 in. moulded depth. She has twin screws and her engines are 21, 34 and 56 in. cylinder diameters by 30 in. stroke. Steam is supplied by four Scotch boilers, 13 ft. 6 in. by 12 ft. All her auxiliary machinery is independent, such as condensers, electric lighting plant, steering gear, windlasses and capstans. She has about 100 staterooms with several parlors with running water in every room. She is magnificently equipped throughout for the service which she has to perform and is allowed to carry 2,800 passengers.



MICHIGAN STEAMSHIP CO.'S STEAMER EASTLAND.



THE LOG OF THE EASTLAND ON HER FAMOUS RUN.

Mr. Lewis Nixon of the Crescent ship yard of Elizabethport, N. J., who has just returned from an extended visit abroad, seems to think that the rehabilitation of the Russian navy will fall greatly upon American ship yards. His reasons for believing so are based upon the fact that the feeling in Russia is entirely hostile to Britain and that the other European nations are not in position to build vessels for foreign nations. Incidentally he thinks that the war between Russia and Japan has only just begun and that Russia with her enormous resources must eventually win the conflict.

Generated on 2024-07-26 22:34 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

DEVOTED TO EVERYTHING AND EVERY INTEREST CONNECTED OR ASSOCIATED WITH MARINE MATTERS ON THE FACE OF THE EARTH.

Published every Thursday by

The Penton Publishing Company,

CLEVELAND, OHIO.

CLEVELAND: WADE BUILDING.
CHICAGO: MONADNOCK BUILDING.
DETROIT: HAMMOND BUILDING.
NEW YORK: 150 NASSAU STREET.

Correspondence on Marine Engineering, Ship Building and Shipping Subjects Solicited.

Subscription, $3.00 per annum. To Foreign Countries, $4.50.
Subscribers can have addresses changed at will.

The Cleveland News Co. will supply the trade with the MARINE REVIEW through the regular channels of the American News Co.

Entered at the Post Office at Cleveland, Ohio, as Second Class Matter.

SEPT. 22, 1904.

The business of the great lakes is far and away a freight business and one is prone to forget that the passenger trade is also an important factor. Those common beasts of burden, the bulk freight carrier, ply with such shuttlecock regularity up and down the lakes and in such numbers as to totally obscure all other types of craft. But, nevertheless, one has simply to have recourse to statistics to find that the passenger trade of the great lakes is really a great trade. Herein lies the great diversity of the chain of waters. The Great Northern Steamship Co. has for some years assiduously advertised its lake passenger service under the caption "In all the world no trip like this." Probably a better catch phrase could not have been invented. There certainly is not in all the world a trip like the fresh water trip from Buffalo to Duluth. The stretch of water is practically 1,000 miles and so magnificent are the opportunities afforded for travel that all types of passenger craft have been developed to seize upon it. The passenger vessels of the great lakes are not excelled in any waterway in the world. They are quite as palatial as ocean liners and are exceeded in dimensions only by the express steamers in the ocean mail service. Both screw and sidewheel types have been developed on the great lakes though the conditions to be met with render the sidewheel type more numerous.

It may be said that the fountain head of the passenger trade of the great lakes is Detroit. Nature has contributed to make this so. The Detroit and St. Clair rivers and intermediate flats afford a safe waterway for all forms of passenger craft and it is only necessary to turn to the report of the steamboat inspection service at Detroit to discover how greatly these vessels are patronized on the Detroit river, 6,690,630 passengers having been carried last year. The remarkable thing about this enormous traffic is that it was carried without any loss of life. It is well worth a trip to Detroit to observe the manner in which this immense passenger traffic is handled. The steamers run, one might say, almost as frequently as the street cars and are brought to and from the wharf with such wonderful precision and such extraordinary ease as to completely disguise the marvelous skill with which the vessels are handled. Detroit is a city which may be said to live upon the water during the few months of summer and when it is considered that the greater portion of passengers that are carried are women and children the practically total absence of accidents is the highest possible tribute that can be paid to the safeguards thrown about the service. The river of Detroit is literally alive at all times with passenger craft and yet a whole season may pass without a single accident occurring. Meanwhile the great stream of freighters, overshadowing everything in point of tonnage, is constantly passing.

Since the close of the masters' and pilots' strike which had an indirect effect upon the whole lake trade, the passenger trade of the lakes has been satisfactory. The Detroit & Cleveland and the Cleveland & Buffalo lines have been well patronized. The passenger lists of the Detroit & Buffalo Line have also proved the wisdom of inaugurating this service. The increase has been steady since the line was started.

In reviewing the passenger trade of the great lakes sight must not be lost of the new avenues that are constantly opening to it. It may be said that the northern shore of Lake Superior was up to a year or two ago an unexplored wilderness, but it is now becoming one of the best of summer resorts. The attractions of the Lake Superior region are many and varied and there is no better way of reaching them than by water. Moreover, as the great northwest fills up the trade with it must grow and, of course, the passenger lines cannot be deprived of their share.

Just as a reminder it may be said that Britain has 8,500 steamers, against 1,200 for the United States. Britain is today the shipowning and shipbuilding nation of the world and her trade in manufacturing extends to the remotest quarters of the globe. In fact she may be said to enjoy a monopoly of a considerable portion of the earth's trade, since she is the only country which possesses steamers running to it. It is a sorry thing to admit that the American manufac-

Generated on 2024-07-26 22:34 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

turer cannot reach a portion of his own continent without first sending his goods to Liverpool.

If government aid has given Britain these advantages, why cannot it give to the United States a similar advantage? Can it fail to do otherwise?

CONTRACTS FOR THREE NEW FREIGHTERS.

That ship building on the great lakes is a thoroughly sound and wholesome business, destined to increase steadily in volume, notwithstanding the inertia of the past few months, is demonstrated by the fact that during the past week the American Ship Building Co. of Cleveland has closed contracts for two 10,000-ton freighters and the Great Lakes Engineering Works of Detroit has closed a contract for one 8,000-ton steamer. The placing of orders for steamers of such immense carrying capacity shows how high the average cargo of the future is going to be. Ten years ago it was only 2,500 tons.

The two vessels which the American Ship Building Co. will build will be larger than any for which contracts have lately been let and will be exceeded only in size by the Augustus B. Wolvin. One of these new steamers was ordered by the Acme Steamship Co., of which Mr. A. B. Wolvin of Duluth is president, and which at present owns the Augustus B. Wolvin. The new steamer will be 20 ft. shorter and will have 1 ft. less beam than the Wolvin. Her general dimensions will be: Length 540 ft. over all; 520 ft. keel; 56 ft. beam, and 31 ft. deep. In design she will be similar to the Wolvin and will have quadruple-expansion engines and Babcock & Wilcox water-tube boilers. She will be built at Lorain and will be ready by the opening of navigation next spring.

The second steamer was ordered by Samuel Mather of Pickands, Mather & Co. of Cleveland. She will be 545 ft. over all, 525 ft. keel, 55 ft. beam and 31 ft. deep. The hull construction will be of the arch type with hatches spaced 12 ft. centers. She will also resemble the Wolvin in general design with the exception that her hopper will have vertical instead of sloping sides. Her engines will be triple-expansion with cylinders 23½, 37½ and 63 in. diameters by 42 in. stroke supplied with steam from two Scotch boilers 14½ ft. diameter by 11½ ft. long, allowed 180 lbs. pressure and equipped with Ellis & Eaves draft. This steamer will be built at the Wyandotte yards and will go into commission at the opening of navigation next spring.

Mr. G. A. Tomlinson of Duluth closed a contract last week with the Great Lakes Engineering Works, Detroit, Mich., for the construction of a freight steamer to be 500 ft. over all, 480 ft. keel, 52 ft. beam and 30 ft. deep. Her hull construction will be of the arch open section type which has latterly become the popular form of construction for bulk carriers. The new steamer will have vertical sides to the water compartments which extend above the water line 5 ft. inside of the outer plating of the ship. There will be twenty-eight hatches spaced 12-ft. centers and the steel hatch covers are to be mechanically operated. Her engines will be of the triple-expansion type. She will differ from the ordinary lake freighter in that her boilers will be of the Niclausse water-tube type and she will have the distinction of being the first steamer to be so equipped on the great lakes. The working pressure will be 250 lbs. per square inch. The Niclausse boiler has not been used very much for merchant work as yet, but the Minnesota and Dakota built by the Eastern Ship Building Co. for the Great Northern Steamship Co. are supplied with these boilers. It is being installed in a number of naval vessels now building for the United States navy. The special advantages of the Niclausse boiler are summed up as follows: All joints at the front; the boiler can be thoroughly cleaned, expanded and repaired from the front; no cutting away is required to replace a tube; none are expanded; can be arranged in both sides and end battery form. Well adapted for air supply over fires; the boiler has absolute freedom from expansion; ease and rapidity with which tubes can be swept by use of steam jet from front of boiler, if this method of cleaning is desired. The Niclausse boiler is being built and improved in this country by the Stirling Co., and although of French design, it can be considered as an American product. The steamer is promised for the opening of navigation next year.

FREIGHT SITUATION.

The tone of the general freight market is much firmer than it was a week or so ago, but there is no indication of any advance in rates whatever. Ore has been moving quite heavily all summer, but it is not expected that more than 17,000,000 tons will be brought down by the close of navigation. Owing to the crowded condition of the docks at the head of the lake, it has been found impossible to move coal in the quantities that it was hoped it would have been moved by this time. While there is a good supply of coal at Lake Erie docks shippers are unable to send it forward and vessel owners are behind on their contracts. This condition of affairs has lasted for the last two or three weeks. The grain rate has strengthened considerably and tonnage for this trade is in good demand.

As the total movement of ore this year will be approximately 7,000,000 tons less than it was last year and 10,000,000 less than it was during 1902, it is expected that docks and furnace piles will be fairly bare at the opening of navigation next year. The general opinion is therefore that navigation will, through the demands of trade, open early next season and that the year will see a considerable movement of freight.

ELECTRIC TOWING ON ERIE CANAL.

The commission appointed to investigate electric towing systems applicable to the enlarged Erie canal met at Albany last week and received the report of the sub-committee on plan and scope of which State Engineer Van Anstyne is chairman. The committee recommended that inventors be invited to design the proposed canal system and that a standing committee of five, three to be engineers, be appointed to examine all devices submitted; also that any system proposed must be applicable to the entire route of the canal from Buffalo to New York. This last suggestion did not meet with the approval of all the members of the commission, some of whom believe that on account of the varying nature of different sections of the canal more than one method of propulsion might successfully be adopted.

MEAN STAGES OF WATER.

The gage records of the United States lake survey show the following mean stages of water above mean sea level, for August, 1904:

	Stages during Aug.	Higher than during same month last year.	Lower than during same month last year.	Higher than during August 1895.	Lower than during August 1895.
	Feet.	Feet.	Feet.	Feet.	Feet.
Lake Superior	602.90		0.26	0.04	
Lake Michigan	581.23	0.51		1.28	
Lake Huron	581.55	0.82		1.48	
Lake Erie	572.93	0.17		1.55	
Lake Ontario	247.79	1.31		3.53	

Present fall, Lake Huron to Lake Erie, 0.65 foot more than year ago.

Two large scows belonging to the Sturgeon Bay Stone Co. foundered in the storm on Lake Michigan two miles from South Manitou island last week. The crews were taken off by the tug Duncan City.

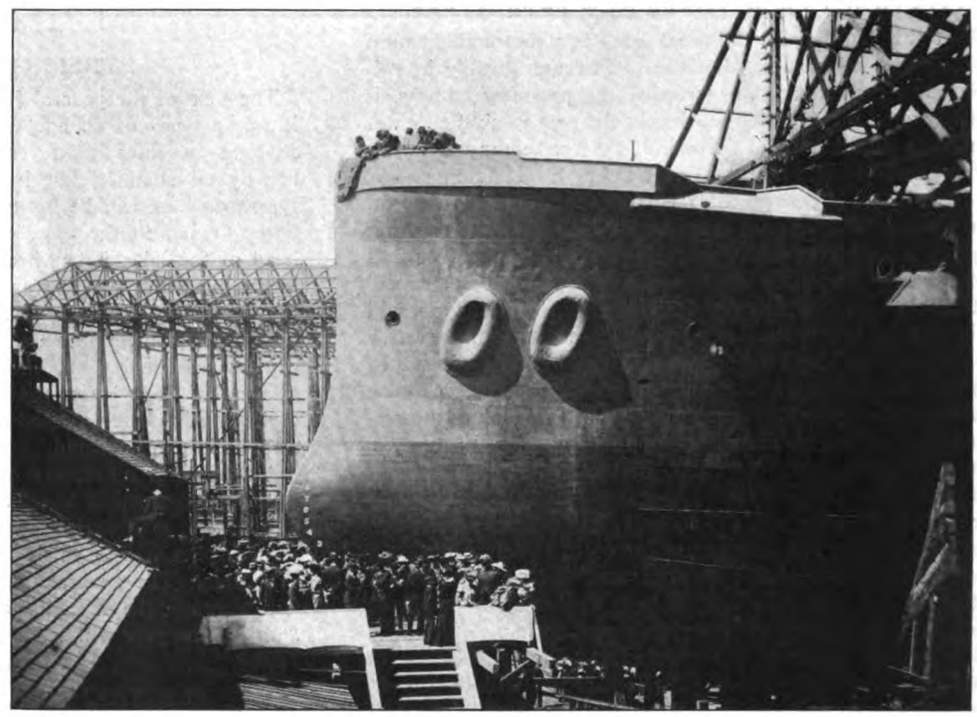
Generated on 2024-07-26 22:34 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

LAUNCH OF PROTECTED CRUISER MILWAUKEE.

MISS JANET MITCHELL.
[*Photo by Stein.*

Gracefully, smoothly and without hitch or accident of any kind, the big protected cruiser Milwaukee was launched a few minutes before noon on Sept. 10 from the ways at the Union Iron Works in San Francisco, where her keel was laid on July 30, 1902. Like the other launchings at the Union Iron Works under the able superintendence of the ship building veteran, Supt. James Dickie, this one went with clock-like regularity. It was essentially Milwaukee day. In addition to the christening party from the city of Milwaukee there were many Milwaukee Knights Templar in uniform, Ivanhoe commandery having gone to the works in a body, as did most of Wisconsin commandery, from the same place.

Thousands of people on craft of every description and covering the roofs of all nearby buildings witnessed her christening and saw her dip majestically into the waters of the Pacific with wild cheering. As the big hull slid down the ways whistles all over the city took up the din and the guns of the white squadron in the harbor thundered a greeting to their new sister. While preliminary preparations were being made at the Union Iron Works for the reception of guests and the launching, a party of twenty-five in automobiles rolled on the Mission-street pier where the tugboat Sea King was waiting to convey them to the Potrero. The first automobile carried Miss Mitchell and Miss Jeffrey. The other machines brought members of the Ivanhoe commandery and their ladies. At 10:15 o'clock the tugboat cast off and fifteen minutes later she landed her passengers at the Union Iron Works wharf.



THE LAUNCHING PARTY.

MISS LILLIAN JEFFREY.

The navy was represented by Naval Constructor J. G. Tawresey, Naval Constructor L. S. Adams, Capt. Stevenson and Lieut. Emery Winship. Naval Constructor Tawresey has represented the government during the building of the Milwaukee and other United States vessels at the Union Iron Works. The following Sir Knights and ladies were among the Ivanhoe party: Capt. and Mrs. D. M. Jones, Arthur Frechlich, Hugo Frechlich, J. C. Post, Arthur L. Morsell, Mr. and Mrs. A. Van Pieterson, Dr. and Mrs. Robert Dadd, Mr. and Mrs. August Braun, John Campbell, Mr. and Mrs. Joseph Clauder, Harry B. Crandall, Samuel W. French, George F. Gerlach, Mr. and Mrs. B. L. Hibbard, Hermann O. Kletsch, Mr. and Mrs. H. N. Laflin, Mr. and Mrs. James B. Leedon, N. R. Maclean, Judge N. B. Neelen, Mr. and Mrs. R. C. Notbohm, Congressman Theodore Otjen, James J. Perkins, Henry Telling, Mr. and Mrs. A. H. Tongen, Mr. and Mrs. Charles H. Wigger and John E. Winn.

Generated on 2024-07-26 22:34 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

Police were stationed in and outside of the yard and Police Capt. Spillane with half a dozen policemen cared for the special guests who had tickets to the platform on which Miss Janet Mitchell of Milwaukee and Miss Lily Jeffrey, daughter of the vice president of the Union Iron Works, were stationed to perform the functions of christening the vessel. Mayor Rose of Milwaukee, who had intended to attend the launching, could not be present in California and the duty of speaking for the Wisconsin city was assigned to Judge Paul D. Carpenter, who said in part:

"On behalf of the city of Milwaukee, which I have the honor to represent on this auspicious occasion, I wish to thank you for the hospitality with which we have been treated here. We feel that we have cause to be proud of the city whose name this great vessel is to carry to the farthest ends of the earth—the typical American city of the midlands. Only fifty years ago the tepees of the Indians dotted the shores of Lake Michigan where today there is a city of 300,000 souls. Her growth has been rapid and substantial. We often hear that beer has made Milwaukee famous, but it is not beer alone that has been accountable for our prosperity. We may have the greatest breweries in the world, but we also have other factories, some of them also among the greatest of the world's industries. The fear that a democracy feels at the building up of a great standing army is natural. History affords us many an example of the misuse of such a weapon, but no such fear should retard our navy. No navy has ever been used to destroy popular liberties.

"The spirit of home is in the words of the poet who wrote: 'Outside are the storms and the strangers.' Every home lover as he looks abroad on turmoil must wish to shut such perils out from his own land, and to what shall he look for protection but to the fleet? 'Outside are the storms and the strangers'—yes: but who shall keep them out if not a strong navy?"

Conspicuous among the honored guests was Mr. Walter A. Post, general superintendent of the Newport News Ship Building & Dry Dock Co., where a sister vessel is being constructed.

It was exactly 11:45 when Miss Jeffrey's finger touched the button that released the weight to strike away the last chock. Slowly the sharp ram bow receded, and at that moment Miss Janet Mitchell, daughter of the late Senator John L. Mitchell of Wisconsin, seized the gayly decked bottle of champagne, and, casting it against the bow, exclaimed in a clear cool voice:

"I christen thee Milwaukee."

LAUNCH OF THE MILWAUKEE.

Two fairer young women could not have been found to officiate at the ceremony. Miss Jeffrey of San Francisco and Miss Mitchell of Milwaukee were pictures of girlish beauty in their pretty gowns on the flag-draped stand. Around them were other fair women, Knights Templar in black and silver and United States naval officers in the full dress of the service. Several distinguished persons from Milwaukee were also present to see the cruiser bearing the name of their home city take her first plunge. After the launch the launching party were entertained at an informal luncheon at the Hotel St. Francis, H. T. Scott, chairman of the Union Iron Works, presiding.

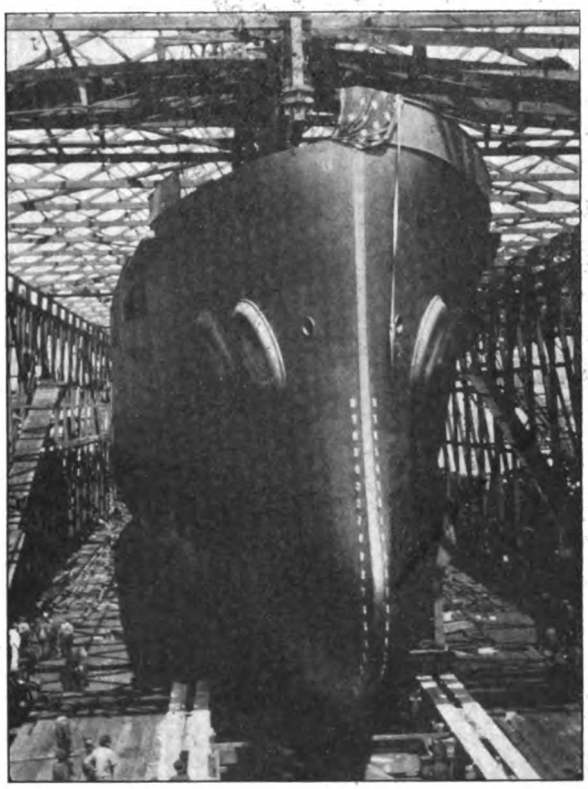
The vessel was launched on convex curved ways with a camber of 9 in. in 264 ft. and a mean inclination at the start of 1-22. The ground ways were 409 ft. long, 25 ft. between centers, with an effective width of 34 in. each. The outer end extended 7 ft. 3 in. below the surface of the water. The cradle was 328 ft. long with an effective surface of 1,854 sq. ft. The launching weight, including cradle, was 4,726 tons,

Generated on 2024-07-26 22:34 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

producing a pressure of 2.54 tons per square foot on the effective surface of the cradle.

The act authorizing the construction of the Milwaukee was approved June 7, 1900, and provided for the construction of three protected cruisers of about 8,000 tons trial displacement, carrying the most powerful ordnance of vessels of their class and to have the highest speed compatible with good cruising qualities and great radius of action and to cost, exclusive of armament, not exceeding $2,800,000 each.

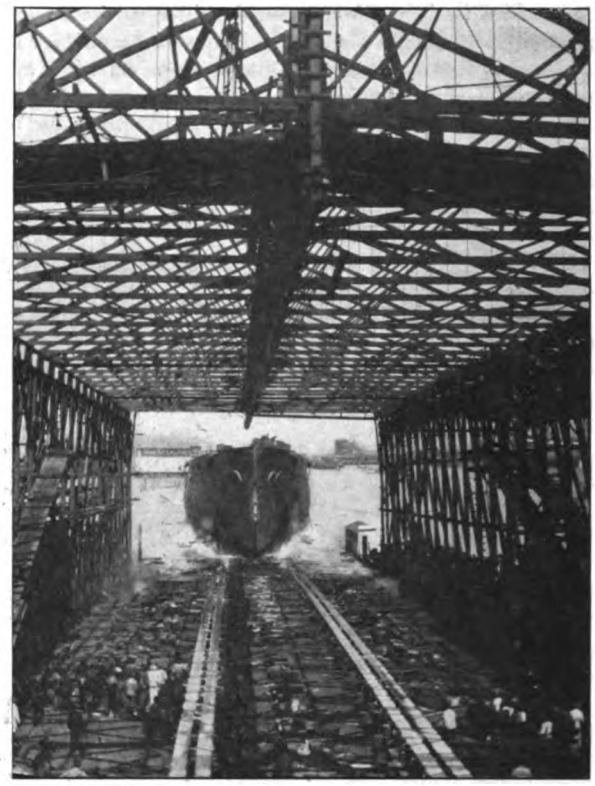
It was later decided to increase the displacement to 9,700 tons and to fit side armor 4 in. thick at the water line and virtually placing her in the armored cruiser class, the side armor being the same thickness as that fitted on the armored cruiser New York. The armored cruiser New York is 380 ft. 6½ in. long, 64 ft. 10 in. extreme breadth and 23 ft. 3½ in. normal draught, with a displacement of 8,200 tons. The Milwaukee is 424 ft. long on load water line, 66 ft. extreme breadth, 22 ft. 6 in. mean draught with the ship fully equipped ready for sea with all stores on board and normal coal supply



JUST BEFORE THE LAUNCH.

and a corresponding displacement of 9,700 tons. The vessel is fitted with twin screw, vertical, triple-expansion engines and Babcock & Wilcox boilers, with an estimated horse power of 21,000, and an estimated speed of 22 knots. The main battery consists of fourteen 6-in. rapid fire guns. The secondary battery consists of eighteen 3-in. rapid-fire guns, twelve 3-pounder semi-automatic guns, four 1-pounder automatic guns, eight 1-pounder rapid-fire guns, two 3-in. rapid-fire field guns, two .30 calibre machine guns, eight .30 calibre automatic guns.

A protective deck is carried throughout the length of the vessel near the water line, as usual in this class of vessels. The slopes are 3 in. thick and the flat 2 in. thick. As stated above the act authorizing the building of the Milwaukee was dated June 7, 1900, the contract was signed April 17, 1901, and the keel was laid July 30, 1902. The contract price for the hull and machinery is $2,825,000. The sister ships are the St. Louis, being built by Neafie & Levy, Philadelphia, and the Charleston, being built by the Newport News Ship Building & Dry Dock Co., Newport News, Va. The Milwaukee has ac-



JUST AFTER THE LAUNCH.

commodations for one commanding officer, eighteen wardroom officers, eight junior officers and nine warrant officers. There will be sixty marine guards and a crew of 574 men, making a total complement of 634, exclusive of officers.

PERSONAL.

Secretary-Treasurer M. E. Farr of the Detroit Ship Building Co. has returned from Muskoka lakes where he spent his vacation.

Mr. John McGunegal has been appointed superintendent of the Wyandotte yard of the Detroit Ship Building Co. to succeed George Crassweller resigned.

Mr. M. H. Wardwell has been appointed purchasing agent of the Great Lakes Towing Co., the position having been created for him. Mr. Wardwell will continue to act as secretary of the company.

Because of a disagreement about which neither side will talk, Mr. W. C. Farington is no longer the manager of the Morgan Line of steamships owned by the Southern Pacific railroad. Mr. Farrington was formerly with the Great Northern Line on the lakes with headquarters at Buffalo.

Elisha Webb, Jr., of Elisha Webb & Son, Philadelphia, well-known manufacturers of steam equipment and steam vessel outfitting, is making an extensive tour of the ship yards of the United States. The company's business has grown so of late that Mr. Webb is desirous of becoming in touch with their western trade.

It was recently announced in the newspapers that the weather bureau would have charge of wireless telegraphy as far as ocean meteorology is concerned. Information to the Review from the weather bureau is to the effect that the control of ocean meteorology is to be transferred to the weather bureau and the control of all wireless telegraphic stations established by the government on the coast of the United States is to be assumed by the navy department. No action has been taken whatever concerning the control of wireless telegraphy as far as ocean meteorology is concerned.

Generated on 2024-07-26 22:34 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

CASE OF THE RUSSIAN CRUISER LENA.

The Russian auxiliary cruiser Lena put into San Francisco for repairs two or three weeks ago and immediately became the concern of three nations. Rear Admiral Goodrich was detailed to make an inspection of the steamer and found that her machinery and boilers were in need of considerable repairs. As Russia is at present at war with Japan the presence of this cruiser in a neutral port for extensive repairs was a ticklish one. It was finally settled by joint agreement for the disarmament of the Lena during the continuance of hostilities and the parole of her crew within the limits of San Francisco. The Lena was taken to the Mare Island navy yard under the escort of the United States cruiser Marblehead where it is likely she will remain until the war between Russia and Japan is ended. The accompanying photographs were taken in San Francisco harbor and give a very good idea of the Lena's appearance, her armament and the character of her Russian crew. The state department issued the following statement regarding the case:

THE RUSSIAN AUXILIARY CRUISER LENA, HER ARMAMENT AND HER ENGINEERS' FORCE.

"The president has issued an order, through the acting secretary of state, directing that the Russian armed transport Lena, now at San Francisco, be taken into custody by the naval authorities of the United States and disarmed. The main features of the conditions prescribed are that the Lena be taken to the Mare Island navy yard and there disarmed by removal of small guns, breech blocks of large guns, small arms, ammunition and ordnance stores and such other dismantlement as may be prescribed by the commandment of the navy yard; that the captain give a written guarantee that the Lena shall not leave San Francisco until peace shall have been concluded; that the officers and crew shall be paroled not to leave San Francisco until some other understanding as to their disposal may be reached between the United States government and both the belligerents; that after disarmament the vessel may be removed to a private dock for such reasonable repairs as will make her seaworthy and preserve her in good condition during her detention, or may be so repaired at the navy yard if the Russian commander should so select; that while at a private dock the commandment of the navy yard at Mare island shall have custody of the ship and the repairs shall be overseen by an engineer officer to be detailed by the commandment and that, when so repaired, if peace shall not then have been concluded, the vessel shall be taken back to the Mare Island navy yard and be there held in custody until the end of the war. This action has been taken upon the written request of the commander of the Lena, addressed to Rear Admiral Goodrich, setting forth that as the vessel is incapable of putting to sea without needful repairs she must disarm, and asking that needful repairs be permitted after disarmament. The secretary of the navy has telegraphed the president's order to San Francisco and gave instructions to Admiral Goodrich and to Admiral McCalla

COMPLETE CANAL IN FIVE YEARS.

Col. R. M. Harrod, one of the Panama canal commissioners, is of the opinion that the great waterway connecting the Atlantic and Pacific oceans will be completed and thrown open to traffic within five years. The Culebra cut, he acknowledged, was the greatest obstacle in the path of the canal engineers, but work on that, he said, was progressing favorably and its difficulties would be surmounted. The plans for the entire canal are now being prepared, and as soon as they are completed work will be pushed. Col. Harrod thinks it will not be necessary to employ a large force of workmen as has been suggested, no matter on what scale the operations are conducted. The reason for this is the more extensive use of labor-saving machinery than under French management. Not more than 5,000 men will, in his opinion, be necessary at any one time. Only out 700 Jamaica negroes and native Panamans are now at work, principally on the great cut at Culebra, but even with the French machinery more is accomplished and at less cost than under the old engineers. With the modern American machinery, especially the great steam shovels, which have already been ordered, the unit cost will be smaller and the progress more rapid. Col. Harrod thinks there will be no inducement for negroes to go from the United States, as there will be no demand for them and the wages paid are not high, considering the cost of living.

It is reported from Washington that the bureau of construction has finally approved the plans and specifications for the armored cruisers North Carolina and Montana and the battleship New Hampshire which were authorized by the last congress. Bids for these vessels will be solicited in a few days. The armored cruisers, save in their interior arrangements, follow closely the line of the Tennessee class and the New Hampshire the Louisiana class.

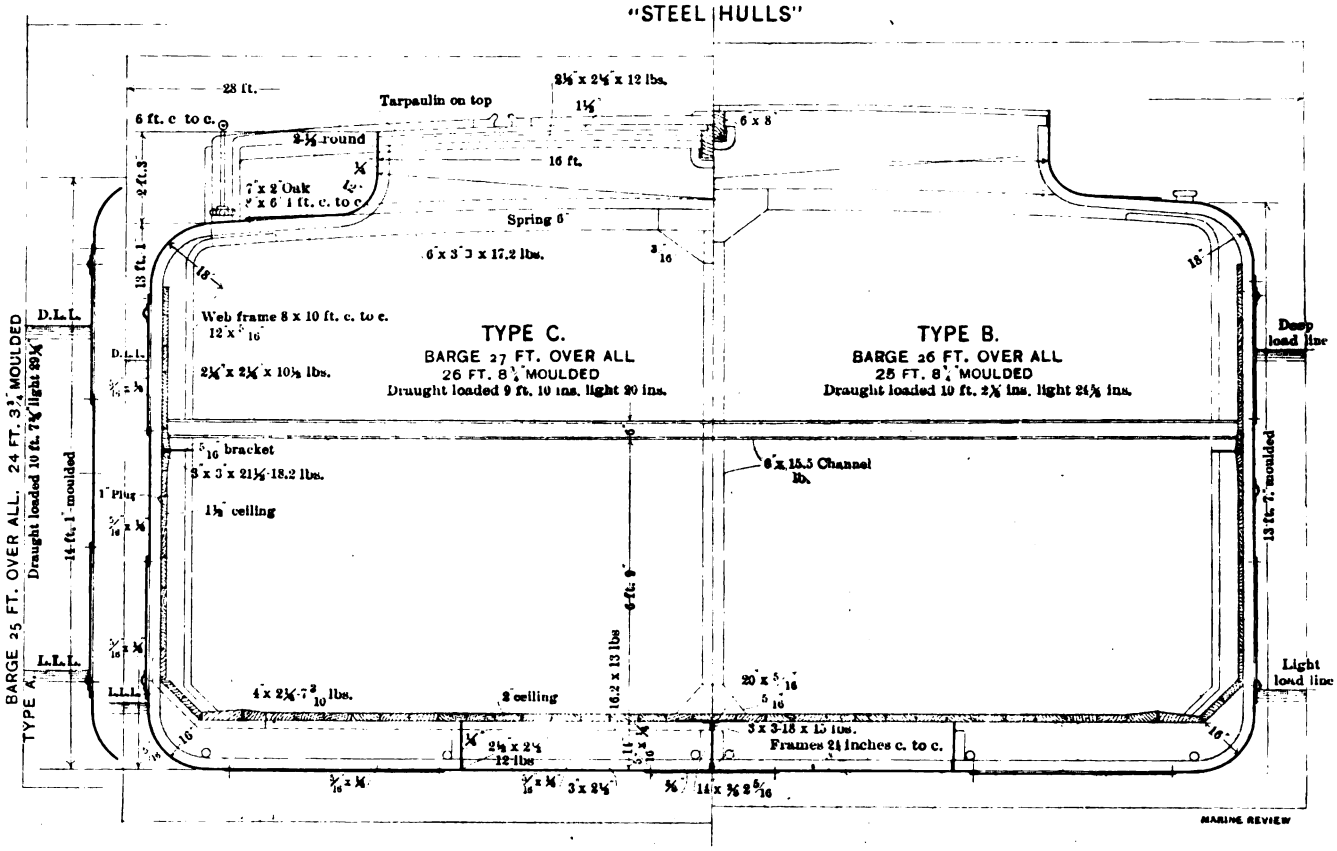
The Dominion minister of justice states that the Dominion government will build a new dry dock at Prescott large enough to accommodate any craft employed in the St. Lawrence river.

Generated on 2024-07-26 22:35 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

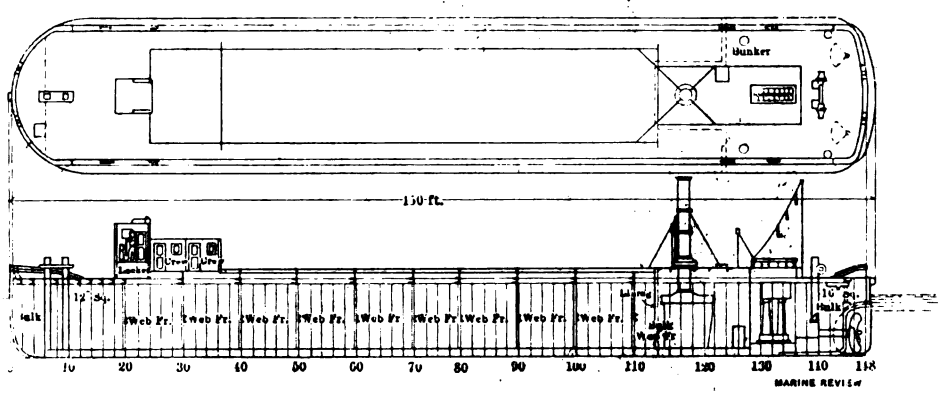
DESIGN OF BARGE FOR ERIE CANAL.

For the purpose of ascertaining definitely whether the locks now being designed for the enlarged Erie canal would accommodate a boat capable of carrying 1,000 net tons of freigh , Mr. Henry A. Van Alstyne, state engineer, requested Mr. Horace See, naval architect, 1 Broadway, New York, to investigate the subject. Mr. See reported in the affirmative and accompanied his report with a design of a barge which could be accommodated in the locks of the size that the advisory commission of the canal were designing and which would carry 1,000 net tons of freight. Mr. See, as will be shown in the plans printed herewith, made designs for a canal barge and also a canal tug 150 ft. in length, 27 ft. beam over all and 9 ft. 10 in. draught. Of course, it is understood that the engineer's department has no authority whatever as to the style or design of boats that may be constructed for use on the enlarged Erie canal. The designs submitted by Mr. See are merely for the purpose of showing what style of boat could be built which would comply with the requirements mentioned. In addition to the drawings printed herewith Mr. See also submitted a report to the commission of which the following is a copy:

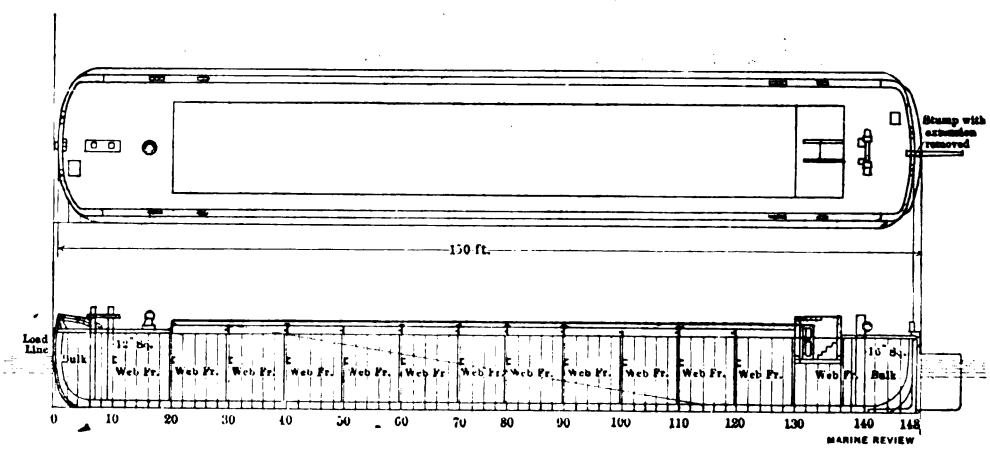
"In reply to yours of Aug. 26 I beg leave to state that the normal draught


"STEEL HULLS"
TYPE C.
BARGE 27 FT. OVER ALL
26 FT. 8" MOULDED
Draught loaded 9 ft. 10 ins. light 20 ins.
TYPE B.
BARGE 26 FT. OVER ALL
25 FT. 8" MOULDED
Draught loaded 10 ft. 2⅜ ins. light 21⅛ ins.
BARGE 25 FT. OVER ALL. 24 FT. 3" MOULDED
TYPE A.
Tarpaulin on top
Spring 6"
Web frame 8 x 10 ft. c. to c.
bracket
ceiling
Deep load line
Light load line
Frames 24 inches c. to c.
MARINE REVIEW

MIDSHIP SECTION OF 1000-TON CANAL BARGE.



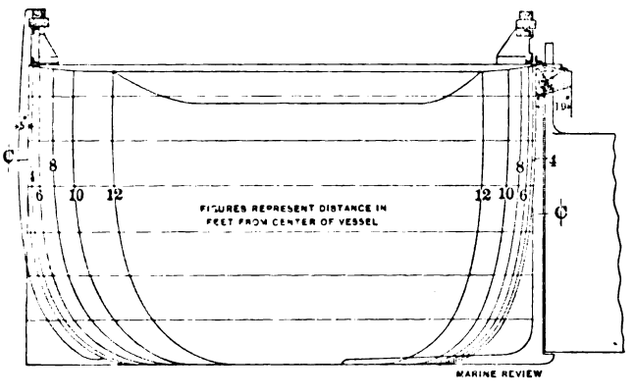
STEEL TUG FOR 1000-TON CANAL BARGE.



HORACE SEE'S DESIGN FOR 1000-TON CANAL BARGE.

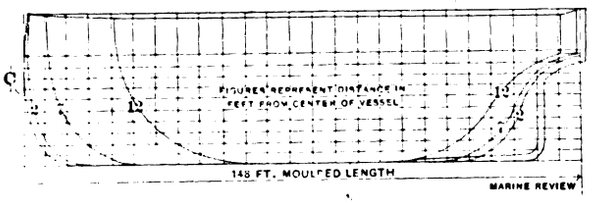
Generated on 2024-07-26 22:35 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

of a so-called tug without cargo, but with the necessary fresh water and coal for four days' run at a speed of five miles per hour without tow, will be twenty (20) inches forward and forty (40) inches aft. The term mile throughout is applied to the statute and not to the knot or nautical. The normal R. P. M. for engine for speed of five miles with tug and



LONGITUDINAL VERTICAL SECTION FOR 1000-TON CANAL BARGE

barges loaded to be 120 per minute—under light conditions they will run up to 200. The pressure intended at boiler was 200 lbs. and at engine 120, in order to maintain a more uniform pressure at the latter. This information as well as that in relation to the number of revolutions was not forwarded in the general report, as it was deemed likely to complicate the main question about the size and capacity of the boats. It is now given, as well as what follows, as a part of the original report. The guard irons or fenders shown on midship section were to exhibit extreme conditions or possibilities with a boat so protected. This protection being more to save the joints of plating of the boats than the concrete in the locks,



LONGITUDINAL VERTICAL SECTIONS OF TUG FOR 1000-TON CANAL BARGE.

as the latter were understood to be looked after by vertical fenders built into their sides. Hanging fenders on boats and logs alongside of piers, as in case of heavily plated vessels, were intended to protect the plating stiffened by web frames and brackets, the rounding at top and bottom of sides also coming into play. The great trouble with these boats will be to meet all the conditions of draught—the extremes being so great. Whereas in an ordinary tug the variation is so little in this respect, that ample provision can be made near the deck to meet a blow. The accompanying tracing shows an iron with but small projection for extreme conditions, as in boats of 27 ft. beam, and another backed by wood to answer the same purpose in those under it and should readily slide on any surface without causing injury. The number of fenders should not be less than three—whereas more would be better."

CHALLENGE CUP RACES.

All details in connection with the great challenge cup races for this week are completed and by looking over the list of entries will be found the fastest motor boats in and around New York. It has been customary in all races to start the boats off at once and at the finish deducting time allowances, etc. In this manner it has been a hard matter for the spectators and in some cases owners themselves to tell just exactly whether they finished first, second or third, but in the series of races the committee has decided to send the boats off according to their time allowance and the first boat to cross the line will be known as the winner. In this way it is hoped that the spectators will be far more enthusiastic and will know exactly what boat has won and how they finish. This method of starting will also prevent collisions at the start as well as any interference which might be well expected with such a large number of boats competing. The course will be 16 miles up the Hudson river to a mark boat off Piermont, N. Y., and return. The contest will be decided by the following boats:

Boat.	Owner.	Club.
Speedway,	Charles L. Seabury,	Columbia
Shooting Star,	Harry A. Lozier, Jr.,	Manhasset Bay
Mercedes,	Wm. K. Vanderbilt, Jr.,	American
Vingt et Un II,	W. S. Kilmer,	Chippewa Bay
Mercedes, U. S. A.,	Herbert L. Bowden,	Rhode Island
Macaroni.	C. H. Tangeman,	Atlantic
Water Lily,	Frank Seaman,	Yonkers Corinthian
Marcirene II,	J. Wesley Allison,	Cape May
Challenger,	Smith & Mabley Inc.,	Audubon
Flip,	C. D. Holmes,	Hartford
Josephine,	A. J. Bushmann,	Jamaica Bay
Logeritham,	F. M. Waterman,	Sachems Head

A more speedier lot of motor boats than those given above would be hard to find and if they all start on each day of the series it will be one of the greatest events in motor boating this season or ever held in America. Many of them are apparently new boats and while some have had trials others have not, although the various designers and builders of such craft have guaranteed for them fast time. The Shooting Star has appeared in several contests during the season and is a very speedy boat; she has been thoroughly overhauled and put in trim for these races and it is expected that she will even show faster time than heretofore. The Vingt et Un II is the world's record holder and will in all probability be piloted in the race by Mr. C. M. Hamilton, who has always had the wheel in all events in which she has taken part.

The Challenger was the American representative in the international contest for the Harmsworth cup and is a very fast boat. The Speedway is everything that her name implies and to beat her will no doubt place new figures up so far as record time is concerned. The Water Lily was the only contestant against the Standard in the previous series. The Mercedes U. S. A. in her trials during the early part of the season made remarkable good time and although she has in most all events met with some mishap it is to be hoped that in this event Mr. Bowden will be better favored and that she will give a good account of herself. The Macaroni is a new creation by Burgess of Boston for Hollander & Tangeman the American representatives of the celebrated Italian concern who put out the F. I. A. T. motors and automobiles. While nothing is known of her speed, yet if what her designer and builder claims for her is correct she will be well up at the finish. The Mercedes VI has had a fair chance of showing her speed in the races of the Knickerbocker Yacht Club on Saturday when she averaged 19.18 knots or 22.057 statute miles.

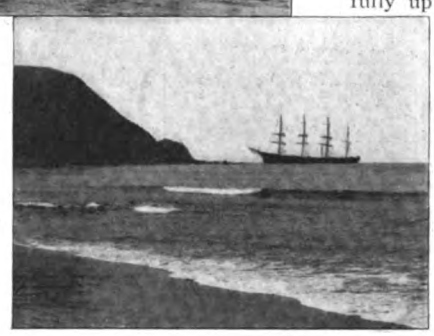
With such an array of fast boats the contest for the gold cup promises to be by far the most interesting and is the sole topic amongst yachtsmen who gather at the various club houses discussing the merits of the various boats, etc.

The Boston Towboat Co. is now at work destroying the wreck of the sunken Clyde line steamship Kiowa. The contract gives them until the first of December to remove the obstruction. Little of value can be saved from the wreck.

Generated on 2024-07-26 22:35 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

STRANDING OF THE BRITISH SHIP DUMBARTON.

The four masted British ship Dumbarton, while bound from San Francisco to Seattle, to take up a lumber charter for Valparaiso, ran on the rocks at Point San Pedro, 11 miles south of the entrance of San Francisco bay, and lies in a position as indicated by the accompanying photographs. The vessel sailed from San Francisco on Saturday morning, Sept. 3, and after casting off the tug at San Francisco lightship stood to the southward. A heavy fog prevailed and almost a dead calm. As she went to the south it is supposed a strong current resulting from the flood tide, and striking her on the starboard bow set her off towards the beach so that at 6:30 that evening without any previous warning she crashed on the rocks at Point San Pedro. As the sea was calm at the time and the vessel was in no immediate danger of going to pieces all hands stood by until next day. Shortly after striking the vessel's hold commenced to fill and before morning she was full to her tween decks. On the days following the stranding all stores, gear and sails were safely landed and careful inspection having pointed to the inadvisability of undertaking expensive salvage operations on a vessel badly holed and lying on an exposed and rocky coast the Dumbarton has been practically abandoned to her fate.



STRANDING OF THE BRITISH SHIP DUMBARTON.

The Dumbarton is an iron ship of 1,773 tons built in 1891 by Russell & Co. at Port Glasgow, and although registered at Victoria, B. C., she is to all intents and purposes a San Francisco owned vessel. Insurance on the hull amounting to $38,000 and on chartered freight from her northern loading port of $12,000 was placed on the local market.

A GRAND NATIONAL MOTOR BOAT SHOW.

At the last session of the executive committee of the National Association of Engine & Boat Manufacturers, held at the Hotel Manhattan, New York city, it was decided that in conjunction with the Sportsmen's Exhibit Co. that the association give a motor boat show. In England, France and Germany motor boat exhibits have become a fixture in the yearly events and have always been largely attended. It is the intention of the association that this national show, which will be held at Madison square garden in New York city, will be the largest exhibit of motors and boats that has ever before been attempted in this country and from all accounts it will prove of great interest to all lovers of the motor boat sport as the leading makes of motors and models of boats will be displayed. There is no doubt but what it will prove a highly successful exhibit as the association is made up of the leading manufacturers and builders in the United States and already those connected with the association who have expressed their desire to exhibit insures the interest that is being displayed to make it a big success. The show will be known as the Motor Boat & Sportsmen's Show and will be held Feb. 21 to March 9. The sportmen's exhibit this year will be far greater than any year heretofore making the attraction doubly interesting. An effort will be made to have special rates on railroads from all the principal cities.

POWERFUL GASOLINE LAUNCH.

The highest powered gasoline driven pleasure craft in the country was launched at Wood's ship yard, City Island, New York city, on Tuesday, Sept. 13. She was designed by the well known firm of designers and brokers, Gardner & Cox, of New York city and is called the Dodger. She was built for Mr. H. I. Pratt and will make a notable addition to the large and rapidly increasing fleet of fast and high powered motor yachts. The Dodger measures 90 ft. on the water line and 94 ft. 4 in. over all. Her designers guarantee for her a speed of 23 miles per hour. She is built of steel and is equipped with two 250 H. P. gasoline motors and has a tank capacity for 1,000 gallons of gasoline. In form she resembles a torpedo boat, her bow surmounted by a torpedo deck and torpedo stern, all very suggestive of speed. She contains a great deal more room than appearances would indicate. Under the torpedo deck forward, extending under a low cabin, are to be found the owner's quarters, comprising saloon, berths, buffet, wardrobes, closet and lavatory. Aft of the saloon is the engine room and further aft, under a low cabin house, are the steward's quarters, equipped with all modern conveniences. The cabin and saloon are finished off in polished mahogany and the painted portions finished off in white enamel. Owing to the lateness of the season it is doubtful if she will be used to any great extent.

CHICAGO GRAIN REPORT.

Chicago, Sept. 20.—The past week fully up to expectations in active shipping demand, the fairly large supply of vessels having met with acceptances based for most part @ 1¼ cent Buffalo corn loading well up to middle of present week. At this report market is holding the 1¼ cent figure, with about the same price for Georgian Bay and Port Huron and the all water routing to Montreal leading, under improved tone, toward basis 3½ cent corn.

The near outlook is influenced favorably in steady receipts, those of past week including 900,000 bu. wheat, 4,260,000 corn and 1,500,000 oats. Liners report good responses in package freight and the at and east of Buffola rates, as settled upon, to remain at 3 cent corn, the shippers' efforts looks to be favored so far as transportation charges enter into the grain selling consideration.

Of the shipments summarized below the distribution is about as follows: via all rail lines of wheat 170,000 bu., of corn 320,000 and oats 325,000: via lake to Buffalo of wheat 278,000 bu., corn 1,700,000 and oats 160,000: and via lake routing for Canada points 510,000 bu. corn and 135,000 bu. oats.

Lake and Rail Shipments—

	This week.	Last week.	Same week last year.
Wheat	460,604	309,165	561,652
Corn	2,534,093	3,388,012	2,993,701
Oats	632,012	620,654	1,365,499
	3,626,709	4,317,831	4,920,852

Generated on 2024-07-26 22:35 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

	Shipments since Jan. 1, 1904.	Same time last year.
Wheat	10,489,882	14,320,984
Corn	52,121545	61,365,977
Oats	33,003,626	47,906,438
	95,615,053	123,593,399

Stocks of Grain in Elevators—

	This week.	Last week.	Same week last year.
Wheat	4,414,000	4,081,000	6,884,000
Corn	5,428,000	4,293,000	5,729,000
Oats	9,886,000	9,129,000	3,110,000
Rye	703,000	675,000	476,000
	20,431,000	18,178,000	16,199,000

AROUND THE GREAT LAKES.

Owing to low water the steamer W. S. Mack, loaded with iron ore, grounded in Buffalo river last week.

Gensen Bos. of Racine, Wis., have been awarded a contact for the construction of a life saving station at Muskegon at $14,700.

The freighter ordered by Mr. W. H. Becker of Cleveland will be built at the Wyandotte yard of the American Ship Building Co.

The steel steamer Penobscot stranded on Racine reef last week. After lightering 500 tons of coal she was released and proceeded to Milwaukee.

The schooner Geo. L. Wrenn, which was tied up for debt at Chicago, was sold by the United States marshal to Geo. B Carpenter & Co., the principal creditors for $310.

The new crib at the entrance of Toledo harbor is reported to be in bad condition, due to the action of the gorges formed last winter. The crib is a new one and was completed only a few months ago at a cost of $100,000.

The Union Line steamer Ramapo which went aground off the port at Milwaukee early Saturday was released Monday by tugs after lightering 130 tons of merchandise, and proceeded to her dock under her own steam.

The steamer Choctaw, belonging to the fleet of the Cleveland Cliffs Iron Co., which ran ashore on Manitou island, Lake Superior, last week, is in dry dock at Cleveland. Thirty-seven plates will have to be either renewed or re-rolled.

The first new wheat to be shipped from the head of the lakes was loaded by Spencer, Moore & Co. from the terminal elevator at Duluth last week. The consignment consisted of 29,000 bu. and was taken by the Western Transit Line of Duluth.

The Michigan Steamship Co. advise that they expect to charter or build a steamer to take the place of the Soo City. The business of the company has grown so of late that it is their purpose to put a larger boat than the Soo City on the route.

The steamer C. C. Hand of the Gilchrist fleet went ashore on Medeline island, Lake Superior. She was bound down with iron ore and ran out 2 ft. forward. The steamers Neosha and Mars of the Gilchrist fleet were sent to her assistance.

The Great Lakes Dredging Co. has started work on three of the largest cribs ever constructed on the lakes. Each will be 198 ft. long and will be part of a protective breakwater out in the lake to keep the northeasters from entering the harbor of Waukegan.

Through the parting of her wheel chains the steamer Uganda ran on the west bank of Lime Kiln crossing between the two lightships this week. The steamer ran out a foot but after part of her cargo had been lightered by the Newman she was released by the tug Phillips.

The Reid Wrecking Co. of Sarnia has received word that the steamer Walter L. Frost which has been on South Manitou island since last fall went to pieces in the storm last week. The Frost was abandoned as a total loss when she stranded but later it was thought that she might be raised and the Reid company was about to undertake the job.

A power boat for M. J. Steffen of Chicago was launched from the yard of the Rice Boat Works, Detroit, last week. It is to be used as a tender for a yacht which the Rice Boat Works is now building for Mr. Steffen. The launch is 22 ft. over all and is equipped with a 8-H. P. Lackwanna engine. On the trial trip in Lake St. Clair the launch made 12 miles per hour.

The schooner F. B. Gardner bound up Lake Huron in tow of the steamer D. Leuty was found to be on fire near Forester, Mich., last week. The schooner is totally destroyed and now lies 2½ miles above Sanilac. The Gardner was owned by John C. Pringle, St. Clair, Mich., and registered 402 tons. She was built in 1855 and was one of the oldest schooners on the lakes.

The steamer City of Benton Harbor of the Graham & Morton Line will, as soon as the fruit season of Lake Michigan is over, go to the yard of the Craig Ship Building Co. of Toledo to have a new bed plate installed which will raise the machinery about 21 in. for the purpose of giving a more accurate immersion to the paddle wheels than is now possible. The purpose is to increase the speed of the steamer.

Bids have been solicited by the lighthouse department for the construction of a new lighthouse tender Aspen which will be stationed in St. Mary's river. The tender will be 125 ft. 9 in. over all; 117 ft. 8 in. on the water line, 25 ft. beam and 11 ft. depth of hold. Bids will be opened on Oct. 1. This new tender will relieve the Marigold and Sumac which have not been able to attend to the work adequately.

The steamer Pewaukee was towed to Grand Haven last week by the steamer Pentland having been discovered off Big Point Sable in a foundering condition. The Pewaukee was bound from Sturgeon Bay to Ludington with a cargo of stone. In the heavy seas the seams became loosened and allowed water to rush in the hold. Despite the utmost exertions of the pumps there was some 4 ft. of water in the hold and it was difficult that fires could be kept going. Much of the cargo of stone was thrown overboard in an effort to lighten the craft.

Col. Charles Davis, government engineer at Detroit, has opened bids for making the experimental cut through Bar Point shoal along the west line of the present channel. The Muir-O'Sullivan Dredging & Dock Co. of Port Huron bid $20 per hour and the Detroit Dredging Co. bid $32 per hour, both concerns guaranteeing to dig eighty yards per hour for fifty working days. The new cut is to be made to ascertain the nature of material in that vicinity and will be 23 ft. deep with a width of one dredge cut along the western channel line from 19,000 ft. north to 10,000 ft. south of Detroit river light. The matter to be excavated is sand and clay and about 50,000 cubic yards are to be removed.

The crew of the little schooner Swan had a very trying experience off Scott's Point, Lake Michigan, during a gale last week. Capt. George H. Genthner, his wife and daughter and one sailor comprising the crew. Capt. Genthner had gone to Chicago early in the day, leaving the schooner at what he considered to be a safe anchorage. About midnight the gale struck the boat, causing it to drag anchors and strike up against an old pier. All during the night the two women and the one seaman worked with pike poles to keep the little craft from running against the pier. When morning came fishermen on shore discovered their plight and at great risk went to their assistance in a small boat. When rescued the three persons were in water up to their shoulders and were almost exhausted from cold and exposure.

Generated on 2024-07-26 22:35 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

MR. DOMINICK KANE'S ADDRESS.

During the sessions of the Merchant Marine Commission in Seattle, Wash., Mr. Dominick Kane of Bremerton, Wash., first vice-president of the Brotherhood of Boilermakers & Iron Ship Builders of America, appeared before the commission and made a very forceful reply on behalf of labor employed in American ship yards. His contention was that while American capital may seek investment in foreign built ships, and actually does so to the extent of several million dollars, American labor has no such liberty and is practically deprived of its exercise altogether. He thought that the American workingman was more concerned in the question of upbuilding the American merchant marine than capital. His address was really very excellent and is as follows:

MR. DOMINICK KANE.

"Among the members of the Moseley Industrial Commission which only a short time ago visited the United States from Great Britain, was Mr. J. C. Cummings of the Iron & Steel Ship Builders & Boiler Makers' society who made a study of conditions in the United States in his trade. His report should help this commission to understand why it is that it costs more to build ships in the United States than it costs in Great Britain. This extract from Mr. Cumming's statement should be of interest:

"'American workmen are greater feeders than the British; in fact it is surprising the amount of foodstuffs they manage to consume. Foodstuffs compare favorably with our own—bread, meat, groceries, vegetable, and fruit being low, if not lower, than in London; prices are certainly lower than in our north country cities and towns. House rent is dear. Americans insist upon more roomy dwellings than the general run of Britishers. The American mechanic generally lives in a six-room house, with hot and cold water and electric light. The average wages of time workers are 75 to 100 per cent higher in our trade in America than at home, and I am inclined to the opinion that notwithstanding the greater cost of outer clothing, house accommodations, and fuel, a careful, steady man could, while keeping himself, efficiently provide for several more in America than in England, foodstuffs certainly being cheaper.

"I am a representative of the American Brotherhood of Boiler Makers & Iron Ship Builders, an organization affiliated with the Federation of Labor, which latter is the largest trades organization in the United States. We are able to verify what Mr. Cummings says, that we get about double the wages and live far better than Britishers do. The wages and the style of living of the men in our trade is on a par with the wages and style of living of the other workmen in the United States. Our aim and purpose is to maintain our wages and conditions upon that plane. We find it more difficult to get employment at our trade, because the ships that we would build for the foreign trade are not protected against the competition of foreign ships. Men in other trades fare better because they are protected against foreign competition. If our 40,000 members were willing to accept the wages that are paid in Great Britain in our trade—which they are not—it is doubtful whether the other elements entering into the cost of building ships could be adjusted to the same rate. In other words, I regard it as impossible to establish in a protective country a successful industry that is subject to the free competition of all the world. The ships that we do build in the United States are built under protective conditions, and the wages and condition of the men employed conforms to those of other protected trades. It will be impossible to say to the men employed in our trade that they must conform to foreign wage rates and foreign conditions of living, in order to secure the building of the ships in the United States that are required for our foreign trade. They will decline the employment upon that basis. That explains why more than half of our members, today, are unemployed. Congress has not seen fit to protect the American-built ship in competition with foreign ships in the foreign trade. On that account American capital refuses to enter into American-built ships. Hence the men of my craft suffer. You must have noticed that American capital, to the extent of several hundred millions of dollars, has entered into foreign-built ships. There the investment is probably safe and profitable. So, this is not so much a matter of finding employment for American capital as it is a matter of finding employment for American labor. Capital is in no distress for employment at a profit, even in shipping—but labor, in the United States, is in dire distress for the lack of employment in the ship building industry.

"We understand that your desire is to receive suggestions as to the method by which to build up our shipping in the foreign trade. We feel sure that it is your earnest desire to succeed in the mission that you have undertaken. You must realize that your success will mean more to the men of our brotherhood than it will to any other class of citizens in the United States—we bar none! I ask you, then, why is it not possible to treat foreign shipping that competes for our foreign carrying as you do foreign tin plates that attempt to compete with that manufactured here? Fourteen years ago we had no tin plate manufacturing in this country because it cost more to make it here than it cost to make it abroad. There was no doubt but that we could make it—the only obstacle

Generated on 2024-07-26 22:35 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

was the cost. Now we can build ships in this country—the only obstacle is the cost. In the matter of tin plate manufacture congress removed the obstacle to American production of tin plate—why can it not remove the obstacle to the building of ships?

"You compelled the foreign tin plate that entered into competition with our own to bear a duty equal to the difference in the wages paid to foreign and American workingmen. Why can you not compel the foreign ship that competes with an American ship to pay a tax equal to the difference of her construction and operation in competition with an American ship? Why is the man who makes tin plate deserving of protection and the man who makes ships undeserving? That is what the Brotherhood of Boiler Makers & Iron Ship Builders wants to know.

"You have got to apply the protective principle to our ships in the foreign trade in order to build up American shipping in that trade. For reasons that we cannot understand congress has endeavored to evade its plain duty to American shipping in the foreign trade. Congress has left our ships unprotected while it has protected every other industry that is subject to foreign competition. All of the other industries that are thus protected prosper—American shipping alone, which is unprotected, shrinks.

"I do not believe that there is a member of this commission who desires to force American workingmen to accept less than the American rate of wages or live differently than other American workingmen live. Either we must do that, or congress must protect the product of our labor against foreign competition, just as it protects every other product of American labor against foreign competition.

"For nearly half a century congress has refused to do for American ships what it has done for every other American industry. During that time American shipping has shrunk to but one-third of what it was in the beginning. We are building no ships now for the foreign trade of the United States. For nearly three years not an order has been placed in an American ship yard for a new steamship for the foreign trade. The few ships that are being finished in our ship yards, now, were built in the expectation that congress was going to give protection to them. Their owners are facing a great loss because of their trust in the justness of congress.

"You understand the situation—the remedy is in your hands. Were the higher cost of construction removed as a factor, you know that the higher cost of operation would still remain a factor. You know, in short, that the only way to build up our shipping in the foreign trade is to give it protection equal to the difference in cost of construction, cost of operation and foreign aids to foreign shipping. That done American capital will enter into the construction and ownership of vessels for our foreign trade, American workmen will be able to build and American citizens will be able to command, officer and man the ships. That left undone, and foreign ships, foreign masters, officers and men will continue to build and to operate the ships employed in our foreign trade.

"In closing I again wish to repeat that the upbuilding of American shipping in the ocean trade is a question that concerns labor more than it does any other class of our citizens. If relief is not given American labor will suffer."

Mr. J. Bruce Ismay is expected to arrive in this country some time during the present month and it is said that his coming will be marked with some radical changes in the operations of the shipping combination with especial reference to the schedule of sailings. At present a hard and fast schedule is adhered to without consideration as to whether business justifies the sailings or not. Of course, this has advantages from the passenger's standpoint but the drain upon the exchequer of the company is frequently very heavy.

MODERN TRANSPORTATION FACILITIES.

Notable tendencies in transportation at the present time are towards obtaining improved facilities for safe and rapid transportation, together with improved facilities at terminals for direct and economical interchange of large volumes of freight traffic between railroads and vessels. The economical freight carrying vessel is constantly increasing in size. Ten years ago the economical carrying vessel on the great lakes was a 3,000 to 4,000-ton vessel Today the economical carrier is a 8,000 to 10,000-ton vessel.

Harbor and docking facilities must be improved to permit the free and rapid passage of these vessels. This necessitates the removal of obstructive center-pier swing bridges which are fundamentally wrong in principle because they occupy and fill the middle and best part of a navigable channel and retard both railroad and vessel traffic; in many cases absolutely blocking modern vessels. Swing bridges give two inadequate side channels where one adequate center channel is required. If they are single-track or double-track structures they must be discarded and removed whenever one or more additional tracks are required. They must be kept narrow so as not to fill and block too much of the channel.

All of these difficulties are overcome by the modern type of Scherzer rolling lift bridge, which, through improvement and development, is now also more economical in construction than a swing bridge. The great advantages of the Scherzer rolling lift bridge have been recognized by the engineers of the principal railroad companies at home and abroad which has led to its rapid and extensive introduction and substitution for swing bridges. The first bridge of the Scherzer type was completed in 1894, for the Metropolitan Elevated Railroad Co. of Chicago. It is a four-track structure, composed of two double-track bridges placed side by side, operated either jointly or separately, as desired. This bridge proved so satisfactory that its construction was followed by other railroad bridges larger than any heretofore constructed, notably:

The six-track Scherzer rolling lift bridge for the New York, New Haven & Hartford Railway Co. at Boston, Mass., completed in 1899, and the eight-track Scherzer rolling lift bridge for the railroad company of Chicago.

The double-track, double-leaf 275-ft. span Scherzer rolling lift bridge for the G. T. T. Railroad Co. at the entrance to the Grand central station, Chicago, the longest span bascule bridge ever built.

One single-track and one double-track Scherzer rolling lift bridge were also constructed for the Big Four railroad at Cleveland. The latter was erected in its open position and when completed was closed and placed into service without delaying or diverting railroad traffic.

The first double-track Scherzer rolling lift bridge for the Central Railroad Co. of New Jersey was placed into service several months ago and the second is now in process of construction.

The four-track Scherzer rolling lift bridge constructed at Bridgeport, Conn., for the New York, New Haven & Hartford Railroad Co. was completed and placed into service early this year. This bridge is composed of two double-track bridges, placed side by side and operated singly or jointly, as desired.

Somewhat similar four-track Scherzer rolling lift bridges are now in process of construction for this company at Cos Cob, Conn., and also at Westport, Conn., and detail plans are now being prepared for a four-track Scherzer rolling lift bridge for the same company to span the navigable channel of the Housatonic river. These new bridges replace and supersede double-track swing bridges and form a part of the very extensive improvements of the New York, New Haven & Hartford railway designed to expeditiously and safely handle their greatly increasing traffic.

A notable Scherzer rolling lift bridge now near completion

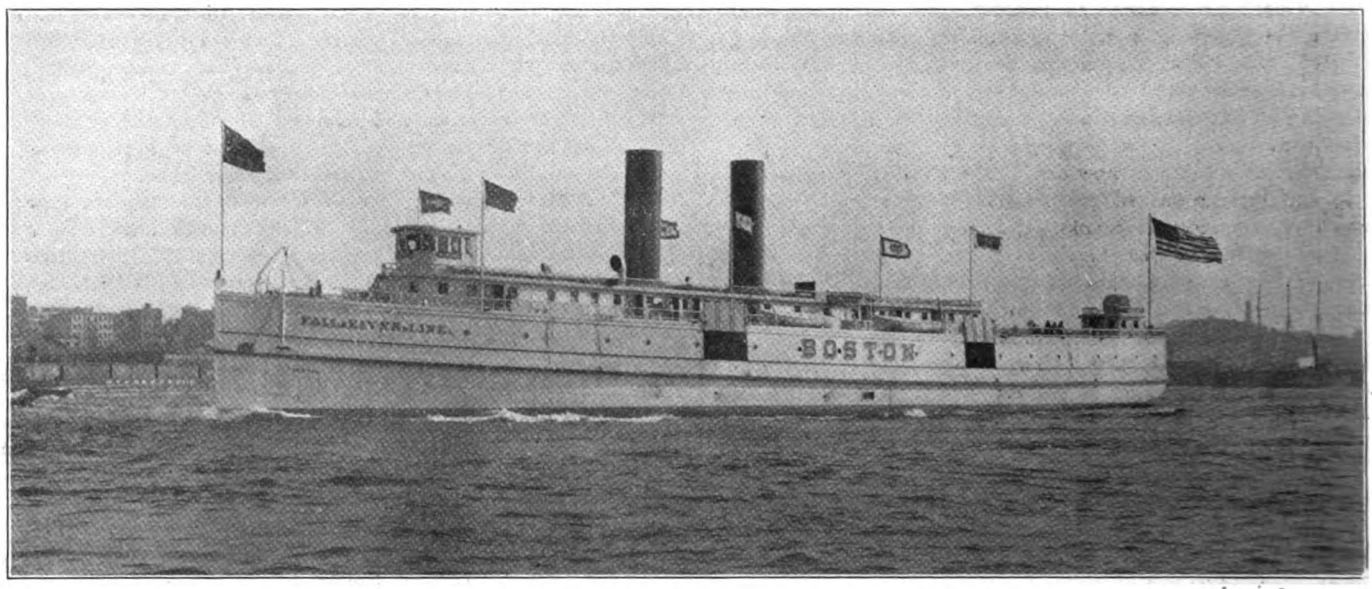
Generated on 2024-07-26 22:35 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

is being built for the Newburgh & South Shore Railway Co. across the Cuyahoga river at Cleveland. It is a double-track, single-leaf structure, having a span of 160 ft. from center to center of bearings, making it the longest single-leaf bridge of this type yet constructed. It is designed to carry the heaviest railroad traffic and furnishes a clear channel wide enough for the rapid passage of the largest modern lake vessels.

More than fifty other Scherzer rolling lift bridges have been constructed and are in process of construction in various parts of the world for railroad, street railway and highway traffic, many of the highway bridges being of especially large span, ranging from 170 to 216 ft. clear.

Among the Scherzer rolling lift bridges being constructed in Europe are a combined railroad and highway bridge for the South Eastern & Chatham Railway Co. across the Swale river, England, and a railroad bridge for the Fishguard & Rossclare Railways & Harbors Co. across the Suir river, Ireland. The detail plans for these bridges were furnished to Sir Benjamin Baker, the distinguished engineer of the great Forth bridge, Scotland.

A three-track railroad bridge for the Dutch State Railways across the Spaarne river at Harlem, Holland, and a very long and wide highway bridge across the Ekaterinhofka river, St. Petersburg, Russia. This bridge forms the beginning of very extensive internal harbor improvements under way for the city of St. Petersburg, Russia.



FREIGHT STEAMER BOSTON FOR THE OLD COLONY STEAMBOAT CO.

[Built by Fore River Ship Building Co., Quincy, Mass.

FREIGHT STEAMER BOSTON.

The Marine Review in its coastwise issue described the steamer Boston recently completed by the Fore River Ship Building Co., Quincy, Mass., for the Old Colony Steamboat Co., a photograph of which is published in the present issue. The Boston, as noted in the issue, is a twin screw steel freight steamer for service on Long Island Sound. Her dimensions are as follows: Length moulded on 10-ft. water line, 291 ft. 3 in.; length over all, 318 ft.; width moulded, widest part, 60 ft. 6 in.; width over guards, widest part, 63 ft.; depth moulded at lowest place and shear, 22 ft. 6 in. The vessel is fitted with a double bottom 3 ft. deep at the center, extending the length of machinery space. The propelling machinery consists of two triple-expansion engines, having cylinders 24, 37, 63 in. diameters by 42 in. stroke, supplied with steam from eight Scotch boilers 14 ft. 2½ in. diameter by 12 ft. long, designed to give the freighter a speed of 19 knots an hour. A more complete description of this vessel will be found in the coastwise issue.

OBITUARY.

Mr. Harry B. Root of the firm of Hall & Root, vessel agents at Buffalo, died last week.

Capt. Theodore E. Cowles, one of the veteran tug captains of the lakes, died at Buffalo this week at the age of seventy-eight years.

Gregory Hurson, well known all over the great lakes, and one of the last of the old time captains and line managers, died at his home in Milwaukee, Wis., on Monday, aged fifty-seven years.

Jesse N. Farwell of Detroit died last week at Mount Pleasant house, White Mountains, N. H., from paralysis. He was born at North Charlestown, N. H., in 1834 and had lived in Detroit for fifty years. Mr. Farwell was at one time one of the largest vessel owners on the lakes.

The new steamer Explorer for the United States coast and geodetic survey was launched from the yard of the American Car & Foundry Co., Jackson & Sharp plant Wilmington, Del., recently. The hull is of wood and is being built for the Pusey & Jones Co., the contracting builders, who will install the machinery. The Explorer is 147 ft. long, 27 ft. beam and 14½ ft. deep. The steamer will be equipped with a fore and aft compound engine 13 and 26 by 20 in., supplied with steam by a Scotch boiler 10½ by 11 ft.

The steamship Mohican, which has just been delivered by the Cramp's to the Clyde Line of New York, creates a new record in rapidity of construction. The design of the vessel was decided upon March 4, the first material was received at the ship yard on March 15, the keel was laid May 3 and the ship was launched Aug. 6. Nineteen days later the machinery had been installed and the vessel was delivered one month after being launched.

Charles Rhode & Sons, Baltimore, Md., launched last week a harbor lighter for the Baltimore Copper Smelting Co. The lighter's dimensions are 98 ft. long, 32 ft. beam and 9½ ft. deep. The company is also getting out a frame for a covered lighter for the Maryland Transportation Co. to be 85 ft. long, 24 ft. beam and 7 ft. 10 in. deep.

Generated on 2024-07-26 22:36 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

YORK
Y
OX AND
DATIONS.

MARINE REVIEW

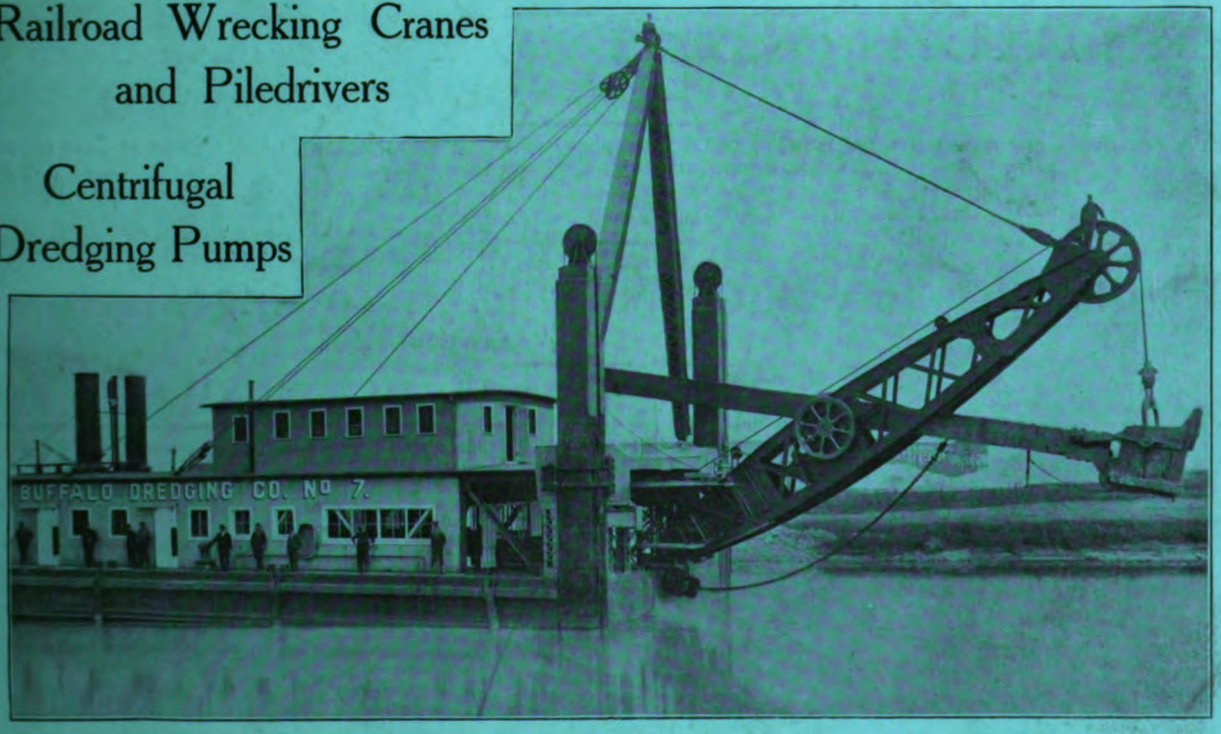
VOL. XXX. CLEVELAND, O., SEPT. 22, 1904. NO. 12.

THE BUCYRUS COMPANY

Steam Shovels and Dredges

Railroad Wrecking Cranes and Piledrivers

Centrifugal Dredging Pumps



SIX-YARD DIPPER DREDGE

Designed and built by *THE BUCYRUS COMPANY, South Milwaukee, Wis.*

Generated on 2024-07-26 22:31 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

Send your inquiries for CASTINGS of

Manganese Bronze
Phosphor Bronze
Aluminum Bronze
Bearing Bronze

Composition, Brass, Bell and Electric Bronze and Pure Hardened Copper, to

VICTOR METALS CO.
East Braintree, Mass. N. Y. Office, 29 Broadway.

Fogg's Resilent Felt Mattresses and Cushions.

Manufactured by
M. W. FOGG,
202 Front St., N. Y.
Send for Illustrated Catalogue

Detroit White Lead Works

DETROIT VARNISH COMPANY,

Manufacturers of

Paints, Varnishes and Specialties specially prepared for marine use.

DETROIT. - CHICAGO. - BUFFALO.

CLEVELAND BRANCH:

W. H. DONALDSON & CO.,
127 West River Street.

Improved Bolt Helmet

Established 1844.

A. SCHRADER'S SON.
32 Rose Street, NEW YORK.
Manufacturer of
Submarine Armor and Diving Apparatus.
We carry a complete stock of Dresses, Hose and Repair Sundries.
All orders filled day received. Write for our prices.

THE BROWN HOISTING MACHINERY COMPANY. INCORPORATED.

Engineers, Designers, and Manufacturers of Special Machinery for hoisting, conveying, storing and handling material of all kinds under the well known "BROWNHOIST" Patents.

BRIDGE UNLOADERS for rapidly discharging bulk cargoes from vessels directly to cars to storage on docks.

Fast Plant Unloaders for rapidly handling either bulk or package freight

CRANES of every description for every kind of service.

MAIN OFFICE AND WORKS, CLEVELAND, OHIO, U. S. A.

Eastern Office, 26 Cortlandt St., New York City. Pittsburg Office, Carnegie Building, Pittsburg, Pa. European Office, 39 Victoria St. London, S. W.

Established 1857.

AMERICAN SHIP WINDLASS CO.
PROVIDENCE, R. I.

We have completed our new IRON FOUNDRY, and are prepared to execute orders for Castings, guaranteeing first-class work, prompt service and reasonable prices.

SHIP MACHINERY EMBODYING THE LATEST DESIGNS AND MANY IMPORTANT PATENTED IMPROVEMENTS.

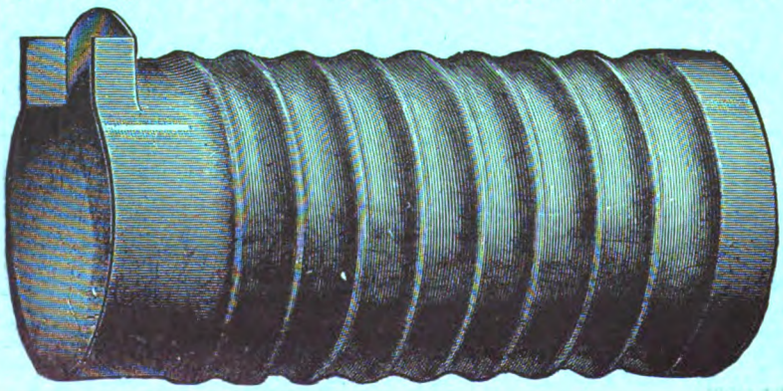
SOLE BUILDERS OF THE

Original and Only Automatic Steam Towing Machine.

SEND FOR ILLUSTRATED CATALOGUE.

P. O. BOX 53. Address: FRANK S. MANTON, President.

MORISON SUSPENSION BOILER FURNACES



FOR LAND AND MARINE BOILERS.

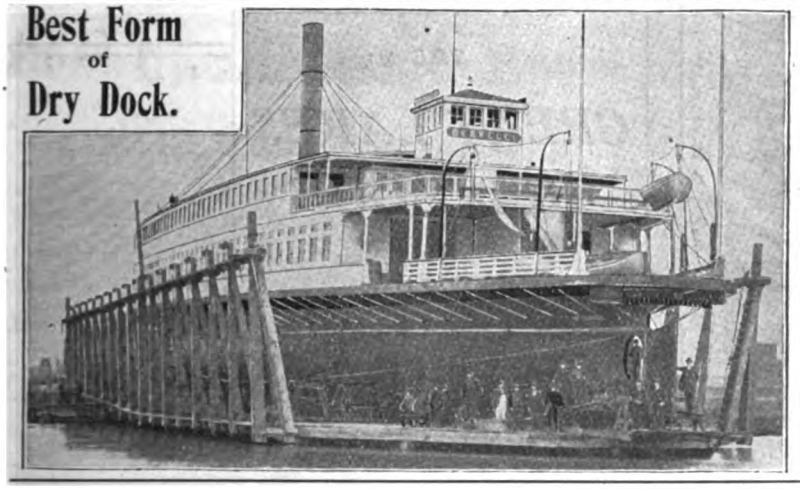
UNIFORM THICKNESS—EASILY CLEANED
UNEXCELLED FOR STRENGTH.

Also Fox Corrugated Furnaces.

MANUFACTURED BY

THE CONTINENTAL IRON WORKS,
West and Calyer Sts., NEW YORK.
Near 10th and 23d Sts. Ferries. Borough of Brooklyn.

Generated on 2024-07-26 22:31 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY



Crandall's Modern Marine Ry's.

SAFE. RAPID.

Built of Steel or Wood
any size.

H. I. Crandall & Son Co.,
(INCORPORATED.)
Contracting Engineers,
EAST BOSTON, MASS., U. S. A.

Steel Castings

from 100 to 75,000 lbs.

Otis Steel

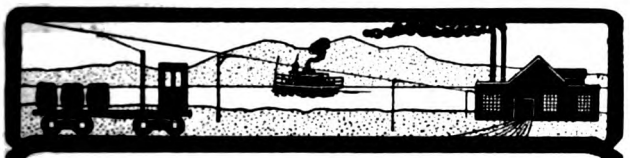
Ship Plates
Flange Plates
Tank Plates
Steel Car Axles
Forgings of all kinds

"Otis" Fire Box Plates a Specialty.

OTIS STEEL CO., Ltd.,
Head Office and Works, CLEVELAND, O.

AGENCIES.

New York: Thorpe, Platt & Co., 97 Cedar St.
Montreal: Homer Taylor, 183 St. James St.
St. Louis: C. A. Thompson, 516 N. Third St.
San Francisco: John Woodlock, 154-156 First St.



Technical Office of Le Mois Scientifique et Industrial.

8 Rue Nouvelle, Paris (9e).

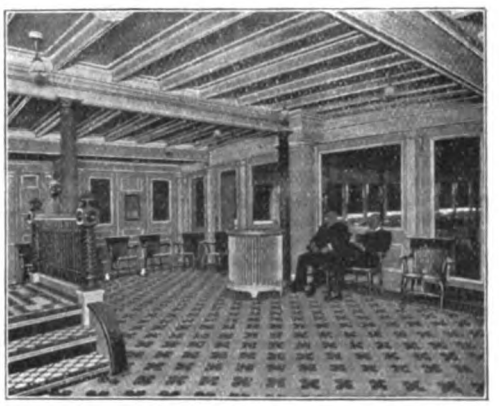
We have with our collaborators opened an office to supply answers on all scientific, mining, technical and bibliographical studies or practical questions. We help *industrials* who have opened new enterprises, *professors* who must resolve unfamiliar problems, *lecturers*, *teachers*, *students*, *etc.* We furnish a complete course, detailed bibliographical work, complete study, cost prices, plans, drawings, illustrations, projections, etc.

ASK FOR SPECIAL NOTICE.

Add 4 cents for postage.
Short Delays for Answers. The Terms are very moderate

7,000,000 CARD'S INDEX.

INTERLOCKING RUBBER TILING.



As laid by us on the Quarter Deck, Dining-room, Stairway, etc., of the Steamer "City of Troy."

Is noiseless, non-slippery, waterproof and thoroughly sanitary, more durable than stone or earthen tiles, elegant in appearance, manufactured in a carefully selected variety of colors. Endorsed by the best architects and engineers. A perfect floor for business offices, banking-rooms, court-rooms, vestibules, halls, billiard-rooms, smoking-rooms, cafes, libraries, churches, hospitals hotels, etc. It is especially and peculiarly adapted for Steamships, Yachts, etc. It stands the constant straining and racking without cracking or separating, and its non-slip pery feature is of high value. Samples, estimates and special designs furnished upon application.

BEWARE OF INFRINGERS. PATENTED.

MANUFACTURED SOLELY BY

NEW YORK BELTING & PACKING CO., Ltd.

91-93 CHAMBERS ST. NEW YORK

PHILADELPHIA, 724 Chestnut St.
BALTIMORE, 41 South Liberty St.
CHICAGO, 150 Lake St.
BOSTON, 232 Summer St.
INDIANAPOLIS, 229 So. Meridian St.
ST. LOUIS, 411 No. Third Street.
SAN FRANCISCO, 509-511 Market St.
ARTHUR L. GIBSON & CO., 19-21 Tower Street, Upper St. Martin's Lane, LONDON, ENGLAND.

Generated on 2024-07-26 22:31 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google

Digitized by Google

Original from NEW YORK PUBLIC LIBRARY

BECAUSE
U.S. INJECTORS
ARE BEST

The United States Government has adopted them. Over 200,000 engineers use them.

Buy of the dealer.
Get the genuine.
Catalog on request.

Our "Engineer's Red Book" should be in every engineer's pocket. Answers 500 questions of vital importance. Free. Write for it today.

American Injector Co.,
Detroit, Mich., U. S. A.

THE ROBERTS

Safety Water Tube Boiler Co.

MANUFACTURERS OF

High Grade Marine Water Tube Boilers.

Generators of the Highest Quality of Steam.

Nearly 1500 in use.

Send for Circulars and Stock Sheet.

Works:
RED BANK, N. J.
Phone, 49 Red Bank.

Main Office:
39 Cortlandt St.,
NEW YORK, N. Y., U. S. A.
Phone, 599 Cortlandt.

Cable Address;
"BRUNIVA."

THE

GREAT LAKES RED BOOK

1904

The Most Popular Little Marine Publication on the Chain of Lakes, containing

A handy list of about 2,000 vessels of the Great Lakes with name of CAPTAIN, ENGINEER AND OWNER of each vessel;

Names and addresses of 354 vessel owners, with list of vessels comprising each fleet.

An alphabetical list of principal ore carriers of the Great Lakes, with carrying capacity (gross tons) of each.

Those who have it, feel that they can not get along without it.

Those who do not possess a copy, or have never seen it, do not know what they are missing.

It is purposely made small so that it will fit the vest pocket or pigeon hole of a desk.

Everyone who has any interest in marine affairs should possess a copy.

Price $1.00.

THE PENTON PUBLISHING CO.
39-41 Wade Building, Cleveland, O.

Generated on 2024-07-26 22:32 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

Books on Marine Engineering, or the Operation of Engines, and for Beginners in Engine Room.

AMERICAN MARINE ENGINEER—By Edwards..... $2 50

ARITHMETIC OF THE STEAM ENGINE—E. S. Gould.... 1 00

ELECTRIC LIGHTING—Atkinson..... 1 50

ELECTRIC LIGHTING FOR MARINE ENGINEERS; or How to light a ship by the electric light and how to keep the apparatus in order—S. F. Walker..... 2 00

ENGINEER'S EPITOME—N. J. Smith. A collection of figures, facts and formulæ for engineers..... 50

ENGINEER'S MANUAL OF LOCAL MARINE BOARD EXAMINATIONS—By Ainsley..... 5 00

ENGINES AND ENGINE RUNNING—Joshua Rose. For the use of those who desire to pass an examination to take charge of an engine or boiler; illustrated..... 2 50

EXAMINATION QUESTIONS AND ANSWERS—Emory Edwards. 900 examination questions and answers for young engineers and firemen who desire to obtain marine licenses.. 1 50

GAS ENGINES AND THEIR TROUBLES—Roberts and Durand. 1 50

GAS, GASOLINE AND OIL ENGINES—Gardner D. Hiscox.. 2 50

HAWKINS' AIDS TO ENGINEERS' EXAMINATIONS, with Questions and Answers 2 00

HAWKINS' SELF-HELP, Mechanical Drawing..... 2 00

HAWKINS' NEW CATECHISM OF ELECTRICITY..... 2 00

HAWKINS' MAXIMS AND INSTRUCTIONS FOR THE BOILER ROOM. Useful to the engineer, the fireman, to the steam user or owner, and to the student of steam engineering. 2 00

HAWKINS' HAND BOOK OF CALCULATIONS FOR ENGINEERS. Comprises elements of arithmetic, mensuration, geometry, mechanical philosophy, with explanations and help rules useful to an engineer..... 2 00

HAWKINS' NEW CATECHISM OF THE STEAM ENGINE.. 2 00

HAWKINS' INDICATOR CATECHISM. (A practical treatise.) 1 00

HOW TO RUN ENGINES AND BOILERS. Practical instruction for young engineers and steam users. E. P. Watson. New fifth edition. 1 00

INDICATOR PRACTICE—Hemenway..... 2 00

KEY TO ENGINEERING—Invaluable to engineers and firemen about to take examinations. Written in the plainest language and in the form of questions and answers. Postpaid. 75

KEY TO ENGINES AND ENGINE RUNNING—Joshua Rose. For use of those desiring to pass examination to take charge of an engine or boiler..... 2 50

LIBRARY OF STEAM ENGINEERING—John Fehrenbatch, M. E. 5 00

MANUAL OF MARINE ENGINEERING: Comprising the Design, Construction and Working of Marine Machinery. A. E. Seaton. New revised edition..... 6 00

MARINE BOILERS: A treatise on the Causes and Prevention of their Priming, with remarks on their general management —Reed. 2 00

MARINE BOILERS—Stromeyer..... 5 00

MARINE BOILERS—L. E. Bertin. 250 illustrations, designs and tables..... 7 50

MARINE ENGINES—R. Murray..... 1 80

MARINE PROPELLERS—By Barnaby..... 4 50

MARINE STEAM ENGINE: Its Construction, Action and Management—Carl. Busley. A manual and book of reference for engineers, students, ship owners, officers of the navy and mercantile marine, and all interested in steam navigation. Thoroughly revised; third edition..... 15 00

MARINE STEAM ENGINES—Sennet & Oram..... $6 00

MECHANICS' AND ENGINEERS' POCKET BOOK, including Naval Architecture, Steam and the Steam Engine, Steam Vessels, etc. 64th edition, 1,050 pages. Chas. H. Haswell.. 4 00

MECHANICAL ENGINEERS' POCKET BOOK—H. H. Suplee. Hand book of tables, formulas and methods for engineers, students and draughtsmen..... 5 50

MODERN EXAMINATIONS OF STEAM ENGINEERS—W. H. Wakeman. 2 00

NAUTICAL ENCYCLOPEDIA, ILLUSTRATED—Howard Patterson. Complete from Standpoint of Marine Engineer and Naval Architect 3 00

POCKET BOOK OF MARINE ENGINEERING, RULES AND TABLES—Seaton and Rounthwaite. For marine engineers, naval architects, superintendents and others engaged in construction of marine machinery..... 3 00

PRACTICAL MARINE ENGINEERING, for marine engineers and students with aids for applicants for marine engineers' license—Prof. W. F. Durand..... 5 00

QUESTIONS AND ANSWERS FOR MARINE ENGINEERS—Theo. Lucas. Containing 807 questions, with fully explained illustrated answers. 2 00

QUESTIONS AND ANSWERS, sixth edition—Stephen Roper.. 2 00

REED'S ENGINEERS' HAND BOOK—New edition; illustrated by 345 diagrams and 36 large plates..... 5 00
Forty-five cents extra by mail or express.

REED'S KEY to Reed's Hand Book—Contains working of all questions given in examination papers..... 3 00

RESISTANCE AND PROPULSION OF SHIPS—W. F. Durand, principal of school of marine construction, Cornell University. 5 00

ROPER'S ENGINEERS' HANDY BOOK for Steam engineers and Electricians. Revised and enlarged..... 3 50

SCREW PROPELLER COMPUTER—Prof. Geo. R. McDermott. For quickly determining dimensions and proportions of screw propeller or any set of conditions..... 5 00

SCREW PROPELLERS AND MARINE PROPULSION—I. McKim Chase. 3 00

SLIDE VALVE—Julius Begtrup. Special reference to Modern Practice in the United States..... 2 00

SLIDE VALVE, SIMPLY EXPLAINED—W. J. Tenant..... 1 00

SLIDE VALVES—C. W. MacCord, Jr. A book for practical men on the principles and methods of design..... 2 00

SMALL ENGINES AND BOILERS—Egbert P. Watson. A manual of concise and specific directions for construction of small steam engines and boilers of modern types; illustrated 1 25

STEAM AND THE MARINE STEAM ENGINE—Jno. Yeo.... 2 50

STEAM BOILERS—Joshua Rose. Practical treatise, construction and examination. Seventy-three engravings..... 2 50

STEAM BOILER: Its Care and Management. Stephen Roper.. 2 00

STEAM ENGINE: Theory and Practice—Ripper..... 2 50

TRIPLE AND QUADRUPLE EXPANSION ENGINES AND BOILERS AND THEIR MANAGEMENT—A Ritchie Leask. Third edition, revised..... 3 00

USES OF ELECTRICITY ON SHIPBOARD- By J. W. Kellogg... 1 00

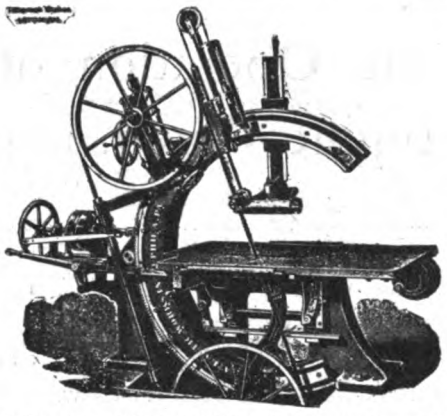
WATER TUBE BOILERS—Fifth revised and enlarged edition of HOW TO RUN ENGINES AND BOILERS—F. P. Watson. Practical instruction for young engineers and steam users..... 1 00

Sent to any address, carriage prepaid, at prices named. There is no book on Navigation, Marine Engineering, Ship Building, or the allied industries, that is not either published or for sale by the

MARINE REVIEW,

39-41 Wade Bldg., CLEVELAND, O.

Generated on 2024-07-26 22:32 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY



ADJUSTABLE BEVEL BAND SAW.—Will bevel both ways at 45 degrees. Power Movement to change angles. Power feed in three directions.

ESTABLISHED 1869. INCORPORATED 1896.

ATLANTIC WORKS INCORPORATED,

Successors to Berry & Orton Company.

2870-72-74-76-78 Gray's Ferry Road, PHILADELPHIA, PA.

MANUFACTURERS OF

MACHINERY FOR WORKING WOOD

FOR USE IN

Ship Yards, Car Shops, Railroad Shops.

SEND FOR CATALOGUE. ESTIMATES FURNISHED

Hollow Chisel Mortisers. Car Sill Dressers.

A boat painted white with

OXIDE OF ZINC

will remain white in all seas and all climates; and tints based on OXIDE OF ZINC will remain pure and unaltered. There is no other satisfactory white pigment for marine service.

FREE: Our Practical Pamphlets:
"The Paint Question"
"Paints in Architecture"
"Specifications for Architects"
"French Government Decrees"

The New Jersey Zinc Co.,

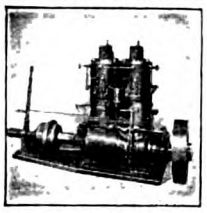
71 Broadway,
NEW YORK.

We do not grind zinc in oil List of zinc paint manufacturers furnished on request.

THE MIETZ & WEISS MARINE OIL ENGINE.

SIZES FROM 1 TO 60 H. P.

Adopted by the United States and Foreign Governments.



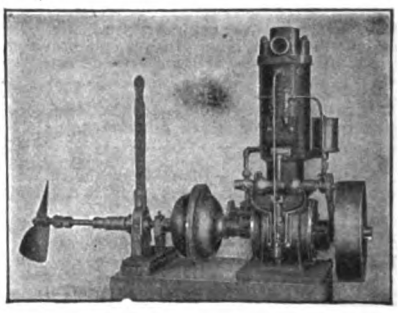
Runs with common kerosene, distillate or fuel oils. No dangerous gasolene used.

MOST ECONOMICAL AND SAFEST POWER KNOWN.

Stationary and Marine Engines

For Pumping, Electric Lighting, Charging Storage Batteries and All Power Purposes.

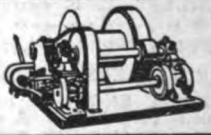
Hoists, Pumps, Air Compressors, Portable Engines, Dynamos.



Highest Award for direct coupled engine and dynamo, Paris Exposition, 1900.
Gold Medal, Pan-American Exposition, 1901.
Gold Medal, Charleston, S. C., Exposition, 1902.

Send for Catalogue Dept. 102.

AUG. MIETZ,
128-138 Mott St.,
NEW YORK.



GASOLENE MARINE ENGINES
Suitable for all Boats from 3½ to 200 H.P.
Over 100 in successful use.
Also the well known and always reliable Woolters Gas or Gasolene Stationary Engines.

HOISTING ENGINES
Of all kinds and sizes, and for all purposes, especially for ship use.
Docking and Hauling Engines and Wire Rope Windlasses.

AUTOMATIC TOWING MACHINES
Somewhat the cheapest, and altogether the best. Positively guaranteed.
Automatic Fog Whistle Machines
Steam Steering Engines.

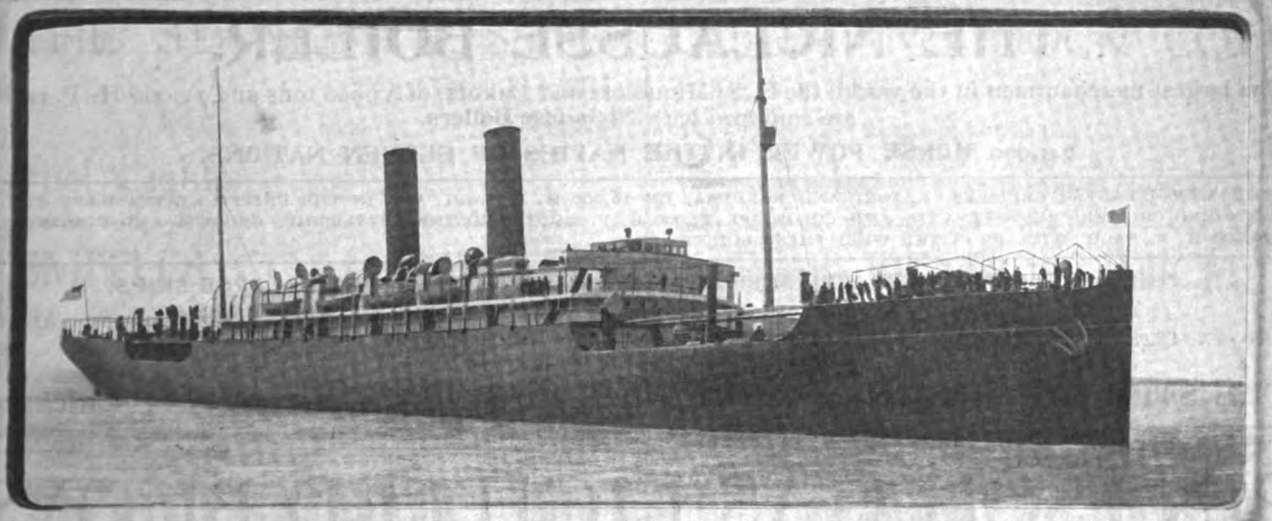
FOR THESE AND OTHER WELL KNOWN SPECIALTIES ADDRESS ALL INQUIRIES TO.

THE CHASE MACHINE CO. Engineers and Machinists, CLEVELAND, OHIO.

Generated on 2024-07-26 22:32 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

OUR SHIPYARD

WITH ITS ACCOMPANYING DRY DOCKS AND WORKS, WAS CAREFULLY DESIGNED, EQUIPPED AND COMPLETED FOR THE



CONSTRUCTION AND REPAIRING IN EVERY DETAIL OF

BATTLE SHIPS · ARMORED CRUISERS · PROTECTED CRUISERS · GUN BOATS · TORPEDO BOATS · TORPEDO BOAT DESTROYERS · SUBMARINE BOATS · OCEAN LINERS · PASSENGER STEAMERS · FREIGHT CARRIERS · ETC · ETC ·

NEWPORT NEWS SHIPBUILDING & DRY DOCK CO.
1 BROADWAY NEW YORK — NEWPORT NEWS, VA.

Generated on 2024-07-26 22:32 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google

Digitized by Google

Original from NEW YORK PUBLIC LIBRARY

After four years of investigation, the Boiler Committee appointed by the British Admiralty have unanimously declared that water tube boilers are more suitable for Naval purposes than cylindrical, and have again placed THE BABCOCK & WILCOX at the head of all types.

THE BABCOCK & WILCOX CO.

NEW YORK and LONDON

WORKS:

Bayonne, N. J., U. S. A. — **Paris, France.**
Renfrew, Scotland. — **Oberhaussen, Germany.**

THE NICLAUSSE BOILER.

The largest merchantmen in the world, the S. S. Minnesota and Dakota, of 33,000 tons and 11,000 H. P. each, are equipped with **Niclausse Boilers.**

641,000 HORSE POWER IN THE NAVIES OF ELEVEN NATIONS.

THE NEW JAPANESE CRUISERS, KATORI AND KASHIMA, OF 16,000 H. P. EACH, AND IN THE UNITED STATES NAVY THE ARMORED CRUISERS PENNSYLVANIA AND COLORADO, 23,000 H. P. EACH, AND THE BATTLESHIPS GEORGIA AND VIRGINIA, 19,000 H. P. EACH, WILL BE FITTED WITH THESE BOILERS.

THE ONLY WATER-TUBE BOILER SUCCESSFULLY USED AND PROVED IN LARGE SHIPS.

Requires no space at sides or rear—cleaned from the front.
Employs no tube-caps—tubes can readily be withdrawn without mutilation.
FORGED STEEL THROUGHOUT.

THE STIRLING COMPANY - - - - Chicago.

PINTSCH GAS LIGHTED BUOYS

Adopted by the English, German, French, Russian and United States Light House Departments for Channel and Harbor Lighting; over 1700 gas buoys and gas beacons in service. : : : :

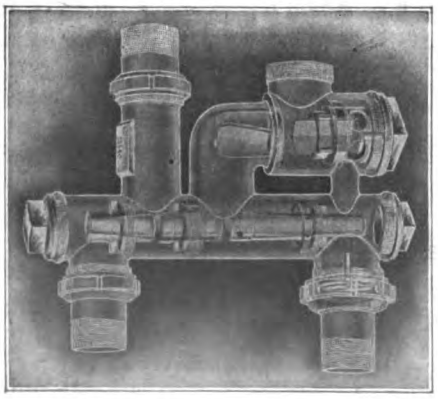
BURN CONTINUOUSLY FROM 80 TO 865 DAYS AND NIGHTS WITHOUT ATTENTION, AND CAN BE SEEN AT A DISTANCE OF SIX MILES. : : : :

Brilliant and Steady Illumination. **Economical and Reliable in Operation**

Controlled by the

SAFETY CAR HEATING AND LIGHTING COMPANY,

160 BROADWAY, NEW YORK CITY.



Above all others the **Penberthy Automatic Injector**

holds the highest place in the esteem of the engineers of America. It is the only reliable boiler feeder you should use. It never balks or breaks, and gives perfect service under all conditions.

THE PENBERTHY VACUUM AUTOMATIC WATER GAUGE has automatic features that render it superior to any other water gauge made. The automatic devices in this gauge will not stick or become corroded. Made on new principles throughout that render it the safest gauge on the market. Made with single glass or double glass with single boiler connection. Write us for complete catalog which describes our entire line of high-grade engineers' specialties.

PENBERTHY INJECTOR CO.

351 Holden Ave., Detroit, Mich., U. S. A.

Penberthy Bulletin sent free on request, for three months.

Generated on 2024-07-26 22:32 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

Your Boilers Need Attention!

SCALE WILL FORM WHEN WATER IS EVAPORATED

DEARBORN FEED-WATER TREATMENT

SPECIAL MARINE FORMULA

PREVENTS SCALE — PRESERVES THE BOILERS

Agents at Lake Ports

DEARBORN DRUG & CHEMICAL WORKS

G. R. CARR, Mgr. MARINE DEP'T.

15 Branch Offices in U. S.

27-34 Rialto Bldg., CHICAGO.

THE STANLEY B. SMITH COAL AND DOCK CO.,

TOLEDO HARBOR, TOLEDO, OHIO.

1,800 Feet of Dock. 6 McMyler Derricks. Capacity 3,000 Tons Daily.

Fuel Lighters.—"KANAWHA." "PENNSYLVANIA." "HOCKING."

Docks.—PENNSYLVANIA R. R. HOCKING VALLEY R. R. TOLEDO AND OHIO CENTRAL R. R.

SMITH'S COAL DOCK, Detroit River, DETROIT, MICH.

12 Pockets. Platform. Low Dock.

Operated by STANLEY B. SMITH & CO.

MARINE SUPPLY COMPANY——STORE AND ICE HOUSE ON DOCK.

PITTSBURG COAL COMPANY.

Steamboat Fueling Facilities at Various Points on the Great Lakes:

CLEVELAND HARBOR { 4 Car Dumpers. 3 Lighters. | FAIRPORT HARBOR { 1 Car Dumper. 1 Lighter. | ASHTABULA HARBOR { 1 Car Dumper. 1 Lighter. | ERIE HARBOR { 1 Car Dumper. Fuel Pockets.

DETROIT RIVER BRANCH { Docks and Pockets at Sandwich and Amherstburg. | SAULT RIVER BRANCHES { Dock and Pockets at Detour. Dock and Pockets at Sault Ste. Marie. (The Port Royal Dock Co.)

WE FURNISH ONLY THE BEST GRADE OF **Pittsburg and Youghiogheny Coal.**

GENERAL OFFICE, LAKE DEPARTMENT, PERRY-PAYNE BUILDING, CLEVELAND, OHIO.

TEN SMITH CONCRETE MIXERS IN ONE ORDER.

MADE IN SEVEN SIZES. ANY COMBINATION AS TO MOUNTING AND POWER.

ENDORSED BY BEST ENGINEERS AND CONTRACTORS. SAVES ITS COST IN THIRTY DAYS.

COLONIAL SUPPLY CO., Boston, Mass.

JOHN L. KIRK, Pittsburg, Pa.

THE WM. PATTISON SUPPLY CO. Cleveland, Ohio.

HENSHAW BULKLEY CO., San Francisco and Seattle.

Nearly 600 in use, all giving perfect satisfaction. Send for Catalogs and Booklet "CONCRETE CATECHISM."

509 W. Fifth St., KANSAS CITY, MO. **CONTRACTORS' SUPPLY & EQUIPMENT CO.,** 232 Fifth Ave., CHICAGO.

Generated on 2024-07-26 22:32 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

WM. L. BROWN, President. J. C. WALLACE, Vice-Pres. O. R. SINCLAIR, Sec'y and Treas. ALFRED G. SMITH, Gen'l Supt.

CHICAGO SHIP BUILDING COMPANY,

Steel Ship Builders and
Dry Dock Proprietors.

Dry Dock and Yards: 101st St. and Calumet River, - - - CHICAGO, ILL.

MILWAUKEE DRY DOCK COMPANY,

MILWAUKEE, WISCONSIN.

Ship Repairs of all kinds.

Two Ship Yards offer every Facility for the Repair of both Steel and Wooden Vessels.

South Yard Dock is 450 ft. long on keel blocks; 460 feet over all; 60 feet width of gate, and 16 feet over sill.
West Yard Dock 312 feet on keel blocks; 45 feet width of gate, and 12 feet over sill.

RUDDER PIT IN EACH DOCK. *ELECTRIC LIGHTS FOR NIGHT WORK.*

Main Office at SOUTH YARD, Foot of Washington Street.

EDWARD SMITH, President. WILLIAM KNIGHT, Ass't Sec'y and Treas. O. T. WARREN, Superintendent

THE BUFFALO DRY DOCK COMPANY,

GANSON STREET AND BUFFALO RIVER.

Operating Four Docks, Sixty-Ton Shear Legs, and in every way Equipped with Modern Plant for the Building and Economical Repairs of

STEEL AND WOODEN SHIPS.

LONG DISTANCE TELEPHONE CONNECTIONS:

Office Telephone, 515 Seneca.
President's Telephone, 209 Bryant, Residence.
President's Telephone, 3920 Seneca, Office.
Asst. Sec'y & Treas., Telephone, 609 Bryant, Residence.

THE SUPERIOR SHIP BUILDING COMPANY,

Ship and Engine Builders.
Dry Dock and Repairs of all kinds.
Two Largest Dry Docks on the Lakes.

Large Stock of Material Always on Hand for Repairing Wooden and Metal Ships.
Repairing Promptly Attended to, Night or Day.

West Superior, Wis.

Generated on 2024-07-26 22:32 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

W. L. BROWN, President.
JAS. C. WALLACE, Vice-President and General Manager.
R. C. WETMORE, Secretary and Treasurer.

DRY DOCKS IN CLEVELAND:
No. 1, foot Weddell St., 547 ft. x 65 ft. x 15 ft. 6 in.
No. 2, foot Weddell St., 450 ft. x 50 ft. x 16 ft.
No. 3, Elm St , 340 ft. x 50 ft. x 13 ft.
Dry Dock at Lorain, 560 ft. x 60 ft. x 17 ft.

THE AMERICAN SHIP BUILDING COMPANY,

Office, 120 Viaduct, Cleveland, O.

Marine and Stationary Engines

STEEL SHIPS

Boilers and Auxiliary Machinery

Sole Agents for the Lakes for the Ellis & Eaves Induced Draft System, as applied to boilers, giving increased power and great economy.

Prompt Attention Given to Ship Repairs of All Kinds

WORKS AT CLEVELAND AND LORAIN

ALEXANDER McVITTIE, President and Manager. WILLIAM C. McMILLAN, Vice President. M. E. FARR, Secretary and Treasurer.
CHARLES B. CALDER, General Superintendent. FRANK E. KIRBY, Consulting Engineer.

DETROIT SHIPBUILDING COMPANY,

Ship and Engine Builders, Detroit, Mich.

Sole Owners for the Lakes and Atlantic Coast of the HOWDEN HOT DRAFT SYSTEM as applied to Boilers, giving increased power and great economy.

Steel Ship Yard Located at Wyandotte, Michigan.
Wooden Ship Yards and Dry Docks, Foot of Orleans Street, and Foot of Clark Avenue, Detroit, Mich.

The Jenks Ship Building Co.

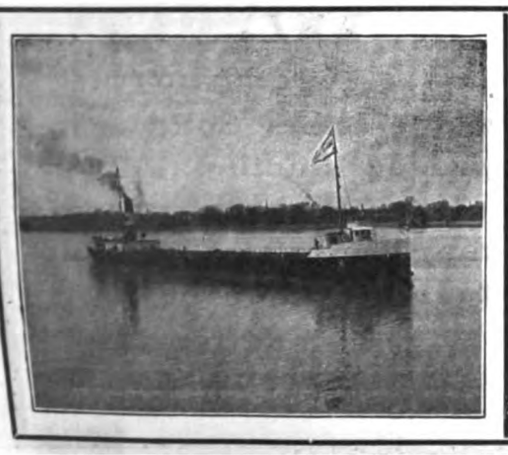
STEEL SHIP BUILDERS,

MARINE ENGINES AND BOILERS.

Prompt Attention Given to Repairs of all Kinds on Ships, Engines and Boilers.

OFFICE AND MACHINE SHOPS AT FOURTH STREET.
YARDS AT FOOT OF LINCOLN AVENUE.

PORT HURON, - - MICHIGAN.



CRAIG SHIP BUILDING CO.

TOLEDO, OHIO.

METAL - AND - WOODEN - SHIP - BUILDERS.

New Dry Dock—450 feet long, 110 feet wide on top, 55 feet wide on bottom, 16 feet of Water on Sill.

Repairs to Metal and Wooden Ships A SPECIALTY.

Generated on 2024-07-26 22:33 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

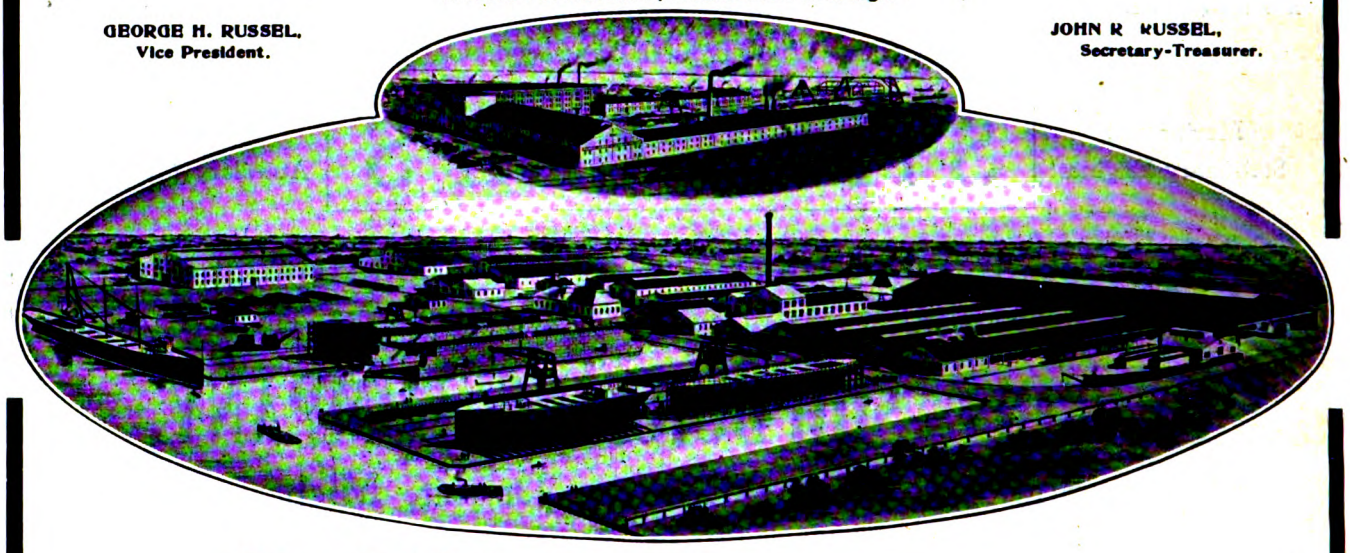
GREAT LAKES ENGINEERING WORKS

DETROIT, MICH.

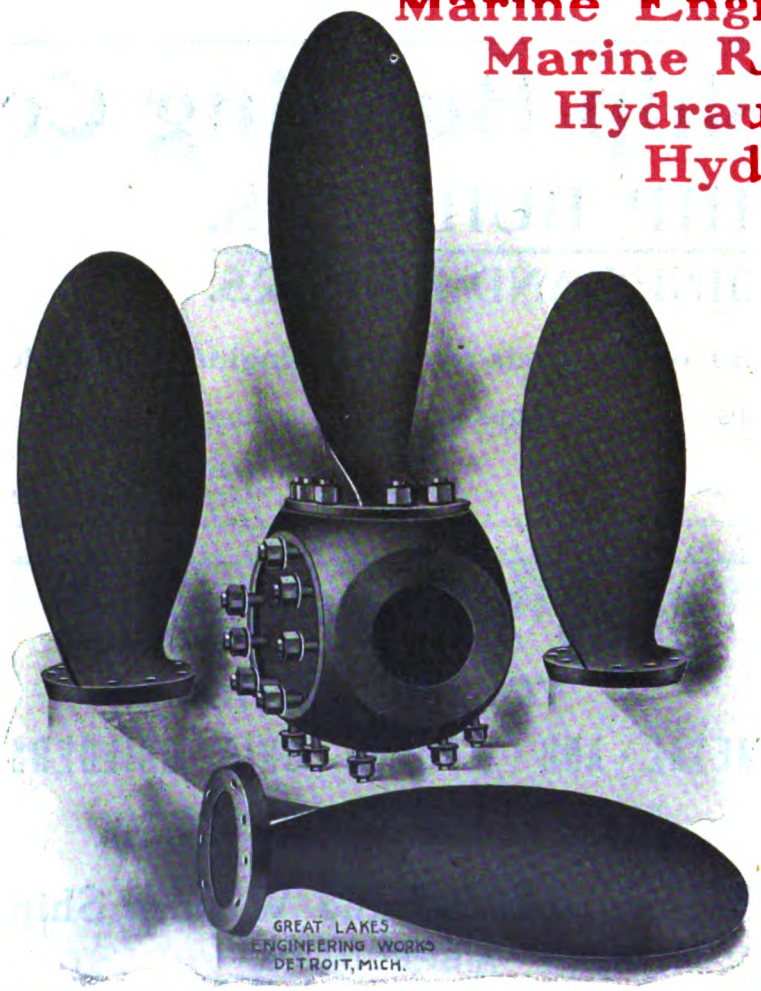
ANTONIO C. PESSANO, President and Gen. Mgr.

GEORGE H. RUSSEL, Vice President.

JOHN R RUSSEL, Secretary-Treasurer.



Steel Ship Builders
Floating Dock
Marine Engines
Marine Repairs
Hydraulic Dredges
Hydro Carbon System
Propeller Wheels



Semi-Steel Propeller Wheels

made either Solid or improved Sectional Type. Our Wheels possess many points of merit not found in other makes.

Quick deliveries guaranteed.

Generated on 2024-07-26 22:33 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

BELLEVILLE WATER-TUBE BOILERS

NOW IN USE (MARCH, 1904)

On Board Sea-going Vessels, NOT INCLUDING New Installations Building or Erecting.

French Navy	355,560 H. P.
English Royal Navy	966,300 "
Russian Imperial Navy	224,500 "
Japanese Imperial Navy	122,700 "
Austrian Imperial Navy	56,700 "
Italian Royal Navy	13,500 "
Chilian Navy	26,500 "
Argentine Navy	13,000 "
The "Messageries Maritimes" Company	87,600 "
Chemins de fer de l'Ouest: (The French Western Railway Co.) Steamships plying between Dieppe and Newhaven	18,500 "
Total Horse Power of Boilers in Use	1,884,860

Societé Anonyme des Etablissements Delaunay Belleville

CAPITAL: 6,000,000 FRANCS

Works and Dock Yards of the Ermitage at Saint-Denis (Seine), France. Telegraphic Address: Belleville, Saint-Denis-Sur-Seine

ASHTON

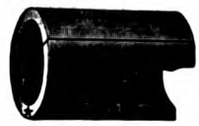
Cam Lever Pop Safety Valves and Non-Corrosive Steam Gauges.

give highest efficiency and durability. Specify them and get the best.

The Ashton Valve Co.

Boston New York Chicago

U. S. A.



Star Metaline Bushing.

SELF-OILING.

NEW METAL

CARGO HOISTERS

Wrought Iron Hook and Strap, Galvanized Iron Shells and Sheaves. Sheaves fitted with Genuine Star Metaline Bushings with Metaline Side Bearings.

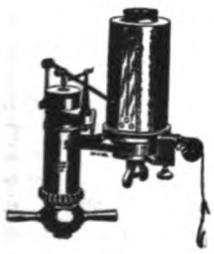
These Blocks Save the Rope and Outwear all others.

Send for 1902 Catalogue M. A. R. FREE.

Manufactured only by

BOSTON & LOCKPORT BLOCK CO.,

BOSTON, MASS. - - LOCKPORT, N. Y.



AMERICAN

THOMPSON IMPROVED INDICATOR with NEW DETENT MOTION.

DO NOT let this IMPROVEMENT ESCAPE YOUR ATTENTION.

SEND AT ONCE FOR CATALOG

INDICATORS THAT INDICATE
GAUGES THAT GAUGE
POPS THAT POP

AMERICAN STEAM GAUGE & VALVE MFG. CO.

NEW YORK. BOSTON. CHICAGO.

THE
BOURNE-FULLER CO.
IRON, STEEL,
PIG IRON,
COKE.
CLEVELAND, OHIO.

Bessemer and Open Hearth Plates, Bars, Shapes, etc., for Bridges, Boilers, Tanks, etc. Closest mill prices named.

Generated on 2024-07-26 22:36 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

PRACTICAL SHIPBUILDING:

A Treatise on the Structural Design and Building of Modern Steel Vessels. The Work of Construction, from the Making of the Raw Material to the Equipped Vessel, including Subsequent Upkeep and Repairs.

By A. CAMPBELL HOLMS,

Member of the Institution of Naval Architects and of the Institution of Engineers and Shipbuilders in Scotland; Surveyor to Lloyd's Register of Shipping. 2 vols. (Vol. I., Text. Medium 8vo. Vol. II.. Diagrams and Illustrations. Oblong 4to.)

The plan of the book is briefly as follows: First, attention is given to the fundamental matters which govern the structural design; the various stresses to which the hull is exposed, their straining tendency, and the different structural designs by which the necessary strength to resist them may be secured. Secondly, each important part of the hull is considered by itself, and each one from three points of view viz., its purpose in the structure and the particular stresses and straining effects to which it is liable; the various formations adopted in its design, with the rules governing them as regards scantlings and strength; and a description of the actual work of making it in a shipyard and fitting it to the ship. As a description of the actual work of the shipyard is rea ing of a special character, it is dealt with separately in the second part of the book, the sequence generally being thus better preserved.

$16.00, EXPRESSAGE EXTRA.

PENTON PUBLISHING COMPANY :: :: :: WADE BUILDING, CLEVELAND.

Books on Yacht and Launch Building and Sailing

Text Book of Marine Motors. By Captain Du Boulay	$2.50
Cruises in Small Yachts and Big Canoes. By Speed	2.50
How to Build a Motor Launch	1.00
How to Build a Model Yacht	1.00
How to Build a Speed Launch	1.00
Manual of Yacht and Boat Sailing. By Dixon Kemp	12.00
Navigation for Yachtsman. By V. J. English, R. N.	7.50
Yachts and Yacht Handling. By T. F. Day	1.00
Marine Motors and Marine Launches. By Roberts	1.00
Yacht Etiquette. By Patterson	1.00
Practical Boatbuilding. By Nelson.	1.00
Practical Boat Sailing. By Davies	2.00
Patterson's Illustrated Nautical Encyclopaedia	3.00
Sails and Sail Making	1.25
Small Boat Sailing. By Knight	1.50
Small Yachts. By Kunhardt	10.00
Steam Yachts and Launches. By Kunhardt	3.00
Simple Elements of Navigation. By Young	2.50
The Yachtsman's Kedge Anchor	1.00
Tables for Constructing Ships' Lines. By Hogg	2.00
Yacht Architecture. By Dixon Kemp	16.80

SENT POSTPAID TO ANY ADDRESS

THE PENTON PUBLISHING COMPANY, CLEVELAND, OHIO.

Generated on 2024-07-26 22:36 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

WANTED and FOR SALE Department.

FOR SALE.

For Sale—A Bargain $20,000.

Steamer Gordon Campbell Cost over $10,000 to dry dock and rebuild within last year. Original cost $100,000. A2 wooden steamer, first-class condition; 206 ft. long, 33 ft beam; two decks and gangways; top deck 113 ft. clear between cabins. Boilers, engines, etc., in first-class condition. Can carry grain, package freight, coal, ties, etc Package freight and boom hoist. $1,000 would cut her down for lumber. Can be seen at Chicago. Address J. T. McAuley, 325 Dearborn St., Chicago. tf

For Sale or Trade.

Freight and passenger steamer for sale or will trade for one somewhat larger. Licensed to carry 279 passengers and is of 257 gross tons; 134 ft. long, 27 ft. beam and 7 ft. deep. Rated A1½. Well fitted for accommodation of passengers and for handling of freight Speed 12 to 13 miles per hour. Address Box 72, Marine Review, Cleveland. Oct. 1

Steamer for Sale Cheap.

Steamer Inter Ocean, 214 ft. long, 36 ft. beam. Boiler and engine in good condition. C. S. Mahoney, 17 Main St., Buffalo, N. Y. tf

Submarine Drill Boat for Sale.

New submarine drill boat for sale. Hull 72 ft. by 24 ft., 5 ft. sides. Enquire of Hickler Bros., Sault Ste. Marie, Mich. tf

Steam Barge J.G. Nichols.

Length 106 ft., beam 22 ft.
Engine 10 by 20 by 11.
Boiler 8 ft. 6 in. long, 48 in. dia.
Steam pressure 137 lbs.
Engine and boiler in first-class shape. Steam hoister and derrick forward.
Will sell cheap to quick buyer.
Address Walter V. Metcalf, 93 Eliot St., Cleveland tf

Marine Boiler for Sale.

Scotch marine boiler 11 ft. diameter, 13 ft. long; two furnaces; allowed 120 lbs. steam. Practically new. Address Box 69, Marine Review, Cleveland. tf

FOR SALE.

For Sale—Tug Jim Pullar and Scow.

Tug—built in 1894; 61 ft. long; 15 ft. beam. Water tube boiler. Compound condensing engine. Strong and seaworthy.

Scow—five years old. Excellent construction; 132 ft. long; 29½ ft. wide at center, 26 ft. wide at ends. Platform style, with stake pockets.

Tug and Scow recently overhauled and are in good condition. May be seen at Washburn, Wis., dock.

Address, Fowler-Jacobs Co., Fisher Building, Chicago. Sept 29

For Sale, Charter or Trade for Larger Boat.

The freight and passenger steamer Hazel. Length 96 ft., beam 18 ft., draught about 7 ft. 6 in. Ample deck room housed in forward. Pilot house and texas on upper deck. Boat has good power and is in good working order throughout. Owned and running at Grand Haven, Mich. Address Parker & Rice, Grand Haven, Mich. tf

Annual Clearance Sale of Marine Motors and Launches.

All our 1904 models; motors alone or launches complete. Write and get our special sale price on the outfit you want. Catalog free. Duluth Gas Engine Works, Duluth, Minn. Sept. 15

Shipyard for Sale.

Whole or half interest in a wood shipbuilding and repair plant, located on Puget Sound. A good opportunity for a man with small capital. Address Box 73, Marine Review, Cleveland, O. Sept. 29

SEALED PROPOSALS will be received at the office of the Light-House Board, Washington, D C., until 2 o'clock P. M., October 1, 1904, and then opened, for furnishing the materials and labor of all kinds necessary for the construction and delivery of the single screw steel steam light-house tender Aspen, in accordance with specifications, copies of which, with blank proposals and other information, may be had upon application to Rear-Admiral R. D. Evans, U. S. N., Chairman. Sept 15

If you want to buy or sell

Second Hand

Anchors,
Anchor Chains,
Boilers,
Buoys,
Capstans,
Clam Shell Buckets,
Compasses,
Concrete Mixers,
Cranes,
Dead Lights,
Derricks,
Divers' Suits,
Electrical Apparatus,
Engine Room Signals,
Engines,
Gasoline Launches,
Hoisting Engines,
Hoists,
Life Boats,
Life Buoys,
Life Rafts,
Lighters,
Logs,
Propellers,
Sail Boats,
Schooners,
Search Lights,
Steamboats,
Steam Steering Apparatus,
Steam Yachts,
Towing Machines,
Tugs,
Windlass,

patronize the "FOR SALE" and "WANTED" columns of the

MARINE REVIEW.

Costs only $1 per inch per issue.
Issued every week. Goes everywhere.
Will do the business for you. Brings returns.

Steam Yacht Catherine.

FOR SALE — Length 78 ft., beam 18 ft , triple expansion engines, water tube boiler, allowed 200 lbs ; electric light, search light, mahogany deck house 9 by 16, power launch, complete outfit, all in first-class condition. One of the best family cruis ng yachts on the Lakes. Inquire Wickes Bros., Saginaw, Mich. tf

SMOOTH-ON
TRADE MARK
Iron Cement No. 1
Makes permanent repairs on Engines, Boilers, Pumps, etc.
Send for Catalogue and Prices.
SMOOTH-ON MANUFACTURING CO.
572-74 Communipaw Ave., Jersey City, N. J., U.S.A.
Chicago Office, 61 N. Jefferson Street.

Generated on 2024-07-26 22:36 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

C&B LINE

THE CLEVELAND & BUFFALO TRANSIT COMPANY.

UNPARALLELED NIGHT SERVICE.

NEW STEAMERS "CITY OF BUFFALO" AND "CITY OF ERIE"

Both together being, without doubt, in all respects the finest and fastest that are run in the interest of the traveling public in the United States.

TIME CARD.—DAILY INCLUDING SUNDAY. CENTRAL STANDARD TIME.

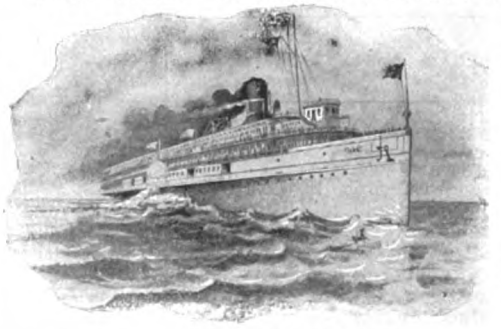
Leave CLEVELAND 8 p. m. Arrive BUFFALO 6:30 a. m.
" BUFFALO 8 p. m. " CLEVELAND 6:30 a. m.

ORCHESTRA ACCOMPANIES EACH STEAMER.

Connections made at Buffalo with trains for all Eastern and Canadian points; at Cleveland for Toledo, Detroit and all points West and Southwest. Tickets reading over L. S. & M. S. Ry. will be accepted on this Company's Steamers without extra charge. Special Low Rates Cleveland to Buffalo and Niagara Falls every Saturday Night, also Buffalo to Cleveland. Ask Ticket Agents for tickets via C. & B. Line. Send four cents for illustrated pamphlet.

W. F. HERMAN, G. P. A., Cleveland, O.

REFRESHING LAKE TOURS VIA THE **D. & C. LINE** STEAMERS.



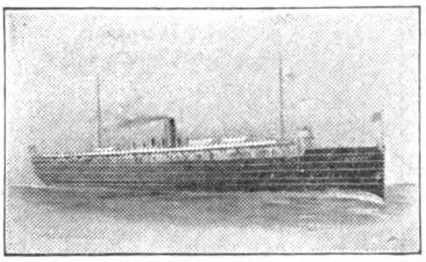
FOUR TRIPS PER WEEK BETWEEN TOLEDO AND MACKINAC.

DAY AND NIGHT TRIPS BETWEEN CLEVELAND AND DETROIT.

FOR PARTICULARS, ADDRESS

A. A. SCHANTZ, GEN. SUPT. AND P.T.M., DETROIT, MICH.

Northern Michigan Transportation Co.



Chicago, Ludington, Manistee, Charlevoix, Petoskey, Harbor Springs, Mackinac Island.

STEAMSHIPS MISSOURI, ILLINOIS and KANSAS.

Our 1904 Booklet mailed free on application. Address,

R. F. CHURCH, G. P. A. - Chicago.

GOODRICH LINE STEAMERS

NINE BOATS.

Passenger and freight service between Chicago, Milwaukee, Racine, Sheboygan, Manitowoc, Green Bay Ports, Grand Haven and Muskegon.

H. W. THORP, Gen'l Mgr.

R. C. DAVIS, G. P. A.

General Office: CHICAGO, ILL.

United Fruit Co's Steamship Lines

CARRYING FAST UNITED STATES AND FOREIGN MAILS.

First-Class Passenger Service to Jamaica

Weekly Sailings from

BOSTON, PHILADELPHIA and BALTIMORE

Fare One Way, $40.00 ═══ Round Trip, $75.00

For full information apply to

DIVISION PASSENGER AGENT

At either port.

The Niagara, St. Catharines & Toronto Railway & Navigation Co.

First class Passenger Service between Toronto, Niagara Falls, N.Y. and Buffalo.

Fast Freight Service to all points.

FOR FURTHER INFORMATION APPLY TO

H. DAVIS, G. P. A. W. N. WARBURTON, G. F. A.

E. F. SEIXAS, GEN. MGR.

Manitou Steamship Co.,

"The Mackinac Line."

In service the famous steel constructed STEAMSHIP MANITOU.

Three times each week between Chicago, Frankfort, Northport, Charlevoix, Petoskey, Harbor Springs and Mackinac Island.

Passenger Service Exclusively.

Illustrated booklets, route and rate books, containing about **200 different combination tours** to select from, mailed free for the asking. Address

JOS. BEROLZHEIM, G. P. A., Chicago.

The Erie & Western Trans. Co.

ANCHOR LINE.

PASSENGER SERVICE Steamers.

India. China. Japan. Tionesta.

PORTS OF CALL.

Buffalo. Erie. Cleveland.
Detroit. Mackinac Island. Sault Ste. Marie.
Marquette. Houghton. Hancock.
Duluth.

FREIGHT SERVICE Steamers.

Alaska. Codorus. Mahoning. Schuylkill. Conestoga.
Muncy. Clarion. Delaware. Juniata. Lehigh.
Lycoming. Susquehanna. Wissahickon. Conemaugh.

PORTS OF CALL.

Buffalo. Erie. Cleveland. Detroit.
Sault Ste. Marie. Marquette. Houghton. Hancock.
Duluth. W. Superior Chicago. Milwaukee.

J. C. Evans, Western Manager, BUFFALO, N. Y.

Chas. E. Markham, General Passenger Agent, BUFFALO, N. Y.

Generated on 2024-07-26 22:36 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

WARD LINE

THE NEW YORK & CUBA MAIL STEAMSHIP CO.

POPULAR ROUTE TO

CUBA, NASSAU, MEXICO

FINEST AND LARGEST STEAMSHIPS SAILING FROM NEW YORK TO OTHER THAN EUROPEAN PORTS. HOLDERS OF THE RECORD BETWEEN HAVANA AND NEW YORK — 1,240 MILES IN 61 HOURS.

FOUR SAILINGS EACH WEEK BETWEEN

NEW YORK and HAVANA.

WEEKLY SERVICE TO GUANTANAMO, SANTIAGO, MANZANILLO AND CIENFUEGOS, CUBA, PROGRESO, VERA CRUZ AND TAMPICO, MEXICO.

SEMI-MONTHLY SAILINGS TO

Nassau, N. P. Bahamas.

LOW RATES OF FREIGHT AND PASSAGE.

SEND FOR OUR SCHEDULES, RATES AND DESCRIPTIVE MATTER.

James E. Ward & Co.

GENERAL AGENTS

90 Wall Street, NEW YORK.

AMERICAN LINE

PLYMOUTH
CHERBOURG
SOUTHAMPTON

Sailing From New York Every Saturday at 9:30 a. m.

St. Louis (11,629 tons)	**St. Paul** (11,629 tons)
New York (10,798 tons)	**Philadelphia** (10,786 tons)

Special Express Train from Plymouth and Southampton to London and between Cherbourg and Paris.

RED STAR LINE

NEW YORK
ANTWERP
LONDON
PARIS

CALLING AT DOVER FOR LONDON AND PARIS.
Sailing Every Saturday at 10:30 a. m.

Finland (12,760 tons)	**Kroonland** (12,760 tons)
Vaderland (12,017 tons)	**Zeeland** (11,905 tons)

One of the Shortest Routes to LONDON, PARIS, BELGIUM, HOLLAND, GERMANY, THE RHINE, SWITZERLAND and ITALY

9 Broadway, New York.

Broad and Sansom Sts., Philadelphia.
India Building, 84 State Street, Boston.
1306 F St., N. W., Washington, D. C.
219 St. Charles St., New Orleans
90-96 Dearborn St., Chicago.
Century Building St., Louis.
Guaranty Building, S., Minneapolis.
21 Post St., San Francisco.
375 Robert St., St. Paul.
41 King St., East Toronto.
17 St. Sacrament St., Montreal.

PIERS: 14 & 15 NORTH RIVER, FOOT OF FULTON ST., NEW YORK.

Mexican - American Steamship Co.,

The Rail and Water Route to Mexico, via New Orleans, La., and Galveston, Texas.

A. L. ROBY, Vice Pres't and Mgr. NEW ORLEANS, LA.	**F. N. LUFKIN,** Sec'y and Treas. NEW ORLEANS, LA.

General Offices: 632 Gravier Street.
New Orleans, La.

New Orleans-Tampico-Vera Cruz Line

S. S. NOR. **S. S. NORHEIM.**

Freight and passenger sailings every two weeks, connecting with all railways from Tampico and Vera Cruz for interior points.

L. PALMER, Agent, New Orleans, La.

GALVESTON - TAMPICO LINE

S. S. IRIS. **S. S. FARMAND.**

Weekly Sailings.

Fast freight service from the United States to Mexico, via Galveston at Tampico, connecting at Tampico with the Mexican Central Railway for all interior points.

W. H. RICHARDSON, Agent, Galveston, Texas.

BOSTON STEAMSHIP CO.

S. S. "SHAWMUT" **S. S. "TREMONT"** **S. S. "LYRA"**

Japan, South China and Manila Steamship Line

Operated in connection with the

Northern Pacific and Great Northern Railway Companies.

Monthly Passenger and Freight Service from Tacoma and Seattle, Washington.

New Twin-screw American Steamships of 10,000 tons register. Exceptionally large staterooms, all outside.

OWING TO THE GREAT SIZE OF THE SHIPS, AND THE IMMENSE CARGOES CARRIED IT HAS NEVER BEEN NECESSARY TO USE RACKS ON THE DINING TABLES.

Rates at any office of

NORTHERN PACIFIC RAILWAY,
GREAT NORTHERN RAILWAY,
CHICAGO, BURLINGTON & QUINCY RAILWAY,
THOMAS COOK & SONS, Tourists Agents.

A. WINSOR, PRES. Boston, Mass.	F. WATERHOUSE, AGENT, Seattle, Wash.

Generated on 2024-07-26 22:37 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

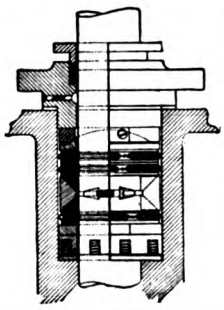
STAR CONDENSER PACKING TOOL.

J. H. Schlosser Patent.

Manufactured for 5/8-in., 3/4-in. and 7/8-in. tubes.

This tool effects a saving of from 50 to 60 per cent. over hand work and any other tool.

Exclusively Manufactured by **MATTESON & DRAKE, 706-707 Bourse, PHILADELPHIA.**



Katzenstein's Self-Acting Metal Packing

For PISTON RODS, VALVE STEMS, etc. of every description for Steam Engines, Pumps, etc., etc. Adopted and in use by the principal Iron Works and Steamship Companies in this and foreign countries.

FLEXIBLE TUBULAR METALLIC PACKING, for slip-joints on Steam Pipes, and for Hydraulic Pressure; also METAL GASKETS for all kinds of flanges and joints.

For full particulars and reference, address

L. KATZENSTEIN & CO.

GENERAL MACHINISTS, BRASS FINISHERS, ENGINEERS' SUPPLIES.

358 West street, New York.

GENUINE ASBESTO-METALLIC PACKING

Very generally known, used and recommended by Lake Engineers.

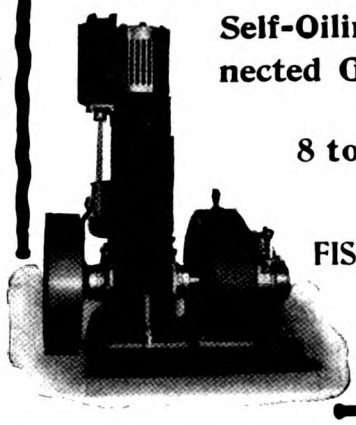
Manufactured by

AMERICAN STEAM PACKING CO., Boston.

RELIANCE MFG. CO.

MARINE GASOLINE ENGINES 4 to 150 H.P., 2 to 6 cylinders. Lightest weight. Simplest. Highest Efficiency. :: :: :: Special Designs for Auto Boats.

CITY ISLAND, N. Y. CITY.



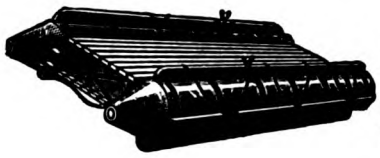
Self-Oiling, Direct Connected Generating Sets

from

8 to 25 K. W.

FISHER ELECTRICAL WORKS,

DETROIT, MICH.



Thos. Drein & Son.

BUILDERS of Metallic Life Boats and Rafts, Government and Pleasure Boats, Block and Granulated Cork Life Preservers. Outfits for Lake Steamers a Specialty. Tatnall St. below Railroad.

WILMINGTON, DEL.

A TRUSCOTT BOAT.

SIMPLE. SAFE. SPEEDY. RELIABLE.

It may be possible to build better and safer boats but it hasn't been done yet. We send a completely illustrated catalogue and price list free, which tells you all about boats and why Truscott Boats Excel.

TRUSCOTT BOAT MFG. CO. ST. JOSEPH, MICH.

Neversink Cork Jackets and Life Belts.

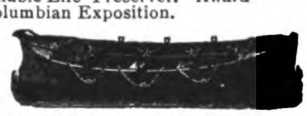
Warranted 24 pounds. Buoyancy and full weight of Cork, as required by U. S. Inspectors.

Consolidated Cork Life Preservers. Ring Buoys and Fenders.

SAFEST. **CHEAPEST.**

Approved and adopted by U. S. Board of Supervising Inspectors. Also adopted by the principal Ocean, Lake and River Steamer Lines as the only Reliable Life Preserver. Awarded four Medals by World's Columbian Exposition.

METALLIC and WOODEN LIFE BOATS.



Metallic Life Rafts. Marine Drags.

Manufacturers of Woolsey's Patent Life Buoy—the lightest, cheapest and most compact life raft known.

DAVID KAHNWEILER'S SONS.

437 Pearl Street, New York City.

Send for Illustrated Catalogue.

PHOSPHOR BRONZE.

REG TRADE MARKS

THE PHOSPHOR BRONZE SMELTING CO. LIMITED. 2200 WASHINGTON AVE., PHILADELPHIA.

"ELEPHANT BRAND PHOSPHOR-BRONZE" INGOTS, CASTINGS, WIRE RODS, SHEETS, ETC.

—DELTA METAL—

CASTINGS. STAMPINGS AND FORGINGS.

ORIGINAL AND SOLE MAKERS IN THE U.S.

DELTA METAL

British Admiralty Charts

The latest Editions of Charts, Plans and Sailing Directions Published by the British Admiralty. Can be obtained from Admiralty Agent by Appointment.

J. D. POTTER,

145 MINORIES, LONDON, ENGLAND.

OFFICIAL CATALOGUE OF CHARTS (380 pages) 1s.

An Abridged Catalogue of Charts of Nautical Books (free on application.)

Generated on 2024-07-26 22:37 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

The Wm. Cramp & Sons
Ship and Engine Building Co.

PHILADELPHIA, PA.

BRASS FOUNDRY

PARSONS MANGANES BRONZE

PARSONS WHITE BRASS

Propeller Castings of all kinds a specialty.
Castings and Ingots for marine and land purposes of high tensile strength and best composition.

ROACH'S SHIP YARD.

Delaware River Iron Ship-Building & Engine Works Chester, Pa.

Builders of Steamships and Marine Machinery.

SHIP-BUILDING IN ALL ITS BRANCHES.

FORE RIVER SHIPBUILDING CO.
STEEL SHIP AND MARINE ENGINE BUILDERS

CONTRACTORS FOR

U. S. Torpedo Boat Destroyers Lawrence and Macdonough.
U. S. Protected Cruiser Des Moines.
U. S. Battleships New Jersey and Rhode Island.
U. S. Steam Light Vessel No. 72.

Office and Works, - - QUINCY, MASS., U. S. A.

The Atlantic Works,
Builders of Steamships, Steam Yachts, Tow Boats Etc

EAST BOSTON MASS.

Marine Engines, Boilers and Tanks.
Heavy Machinery and Plate Iron Work
Three Marine Railways.

Georgian Bay Engineering Works,
Midland, Ontario.

Designers and Builders of Dredges, Steel Tugs, Yachts, Launches and Light Vessel Work.

Hoisting Engines, Derricks and Contractors' Plant.

Marine Boiler and Engine Repairs Promptly Executed.

The Allen Dense-Air Ice Machine
Contains no chemicals, only air. Proven by many years' service in the tropics on United States men-of-war, steam yachts and passenger steamers.
A HUNDRED ARE IN DAILY SERVICE ON STEAMERS.
H. B. ROELKER, 41 Maiden Lane, NEW YORK
Consulting and Constructing Engineer. Designer and Manufacturer of Screw Propellers.

THE LOCKWOOD MANUFACTURING CO.
EAST BOSTON, MASS.
ENGINEERS AND MACHINISTS.
Builders of STEAMSHIPS, TOW BOATS and MARINE ENGINES
REPAIRING OF HULLS AND MACHINERY.

W. & A. FLETCHER CO.
NORTH RIVER IRON WORKS.
MARINE ENGINES, BOILERS, Etc.
Hudson, 12th and 14th Streets, Hoboken, N. J.
Take Ferry from foot of West 14th St., N. Y.

The Shipowners Dry Dock Co.
Chicago, Ill.

Building and Repairing of Steel and Wooden Ships with economy and dispatch.
Yard and Dry Docks: Halstead St. and North Branch.
Largest Dry Dock: 480 ft. on keel blocks.

Office, 381 No. Halstead St. Phone, North 1658.

MANITOWOC DRY DOCK COMPANY
SHIP BUILDERS

Facilities for Repairs to Steel and Wooden Vessels.

MANITOWOC - WIS.

Office Phone { Long Distance 423. Zenith 423. Residence { Long Distance 719-4. Zenith 846.

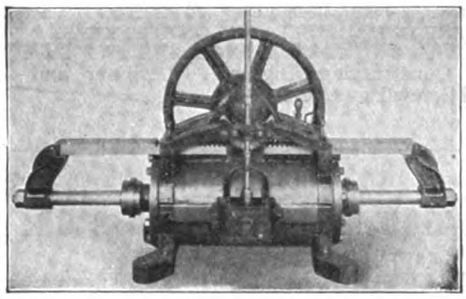
GOGEBIC STEAM BOILER WORKS,
J. F. DACEY, Manager.
Boilers, Tanks and Sheet Iron Work,
Boiler Fronts and Grate Bars.
SPECIAL ATTENTION GIVEN TO REPAIRING.
Office and Works: 409 LAKE AVE. SOUTH. DULUTH, MINN.

MASTERS AND ENGINEERS ATTENTION!
When in need of Repairs to Engine or Boiler, Call on
THE MARINE IRON CO., Duluth, Minn.
FOR SHOP, FOUNDRY, BLACKSMITH AND BOILER WORK.
SUPPLY BOAT AVAILABLE AT ALL HOURS.
Foot of 12th Ave., on the Duluth Dredge & Dock Co. Dock
Old Phone No. 1270.

THE BERTRAM ENGINE WORKS CO.,
TORONTO, CANADA.
Ship Builders and Marine Engineers.
All Kinds of Repair Work Executed on Short Notice.

Generated on 2024-07-26 22:37 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

A STEAM STEERER



DIRECT
—and—
POSITIVE
QUICK ACTING.

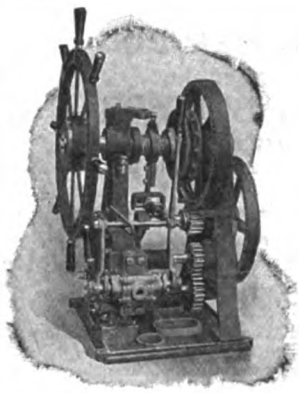
Especially adapted for Steam Yachts, Ferryboats, Lake, Ocean and Harbor Tug Boats.

Send for Catalogue and Particulars.

MOULTON STEERING ENGINE CO., 17 STATE STREET, NEW YORK CITY.

BECK STEAM AND HAND
STEERING GEAR
SIMPLE, STRONG AND DURABLE

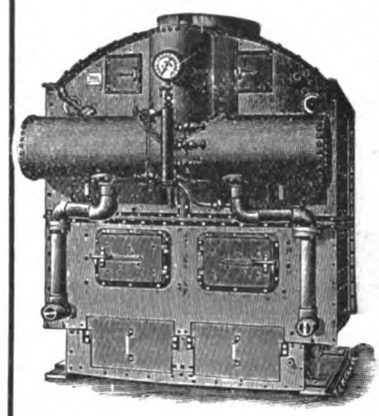
PAWLING & HARNISCHFEGER
Clinton and South Water Streets
MILWAUKEE, WIS.. U. S. A.



THE
Dake Pilot House Steam Steerer.

A Simple, Compact and Durable Machine.
Occupies Small Floor Space.
Write for descriptive circulars and prices.

MANUFACTURED BY
The Dake Engine Co.
GRAND HAVEN, MICH.



250 STEAM VESSELS
Now Equipped With
ALMY'S PATENT SECTIONAL Water Tube Boilers
Bear Evidence of Their
Excellent Qualities

Almy Water-Tube Boiler Co.
PROVIDENCE, R. I.

To the Master and Owner.

There are four good reasons why you should buy your Charts from the Marine Review:

¶ The charts sold by the Marine Review are thoroughly up-to-date.

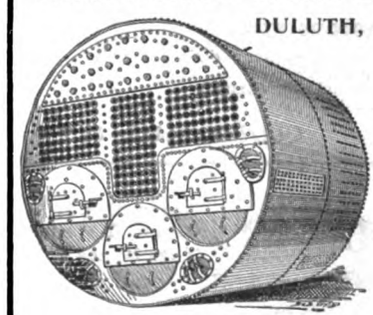
¶ They are bound with tape so that they will not tear the first time they are handled.

¶ If you so desire them, they can be backed with linen so that they will wear as long as the vessel itself.

¶ They are better and cost less than any you could obtain elsewhere.

The Marine Review,
39-41 Wade Building, - Cleveland.

Northwestern Steam Boiler & Mfg. Co.
DULUTH, MINN.



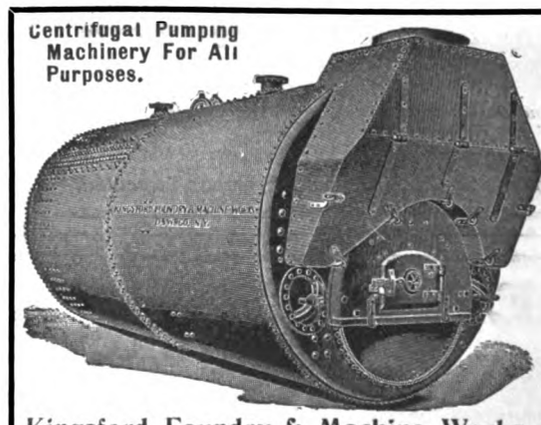
Manufacturers of
BOILERS, ENGINES AND MACHINERY

Special facilities for Marine Work. Repairs promptly attended to Night or Day.

We carry a complete line of Marine and Engineers' Supplies.

TELEPHONES: OFFICE AND WORKS, 615.
RESIDENCE CALLS: M. A. RYAN, *Pres. and Gen'l Mgr.*, 776-R; J. H. OPPERMAN, *Secretary*, 579-R; E. KRIZ, *Superintendent*, 557-M.

Centrifugal Pumping Machinery For All Purposes.



MARINE BOILERS

Kingsford Foundry & Machine Works, OSWEGO, N. Y.

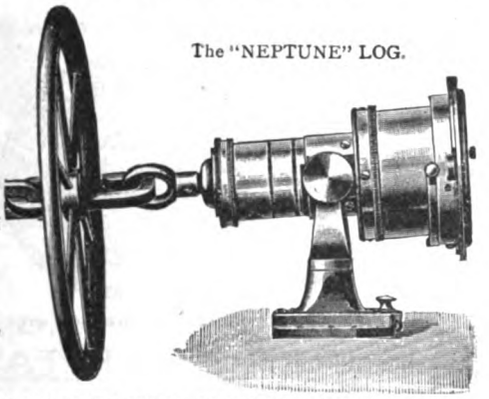
Generated on 2024-07-26 22:37 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

THOMAS WALKER & SON,

BIRMINGHAM, ENGLAND.

THE "NEPTUNE SHIP-LOG With Ball Bearings for HIGH SPEEDS.

Also makers of the "CHERUB" and "HARPOON" SHIP-LOGS.



The "NEPTUNE" LOG.

MAKERS TO THE BRITISH NAVY.

Time and Distance Tables for Lake Ships

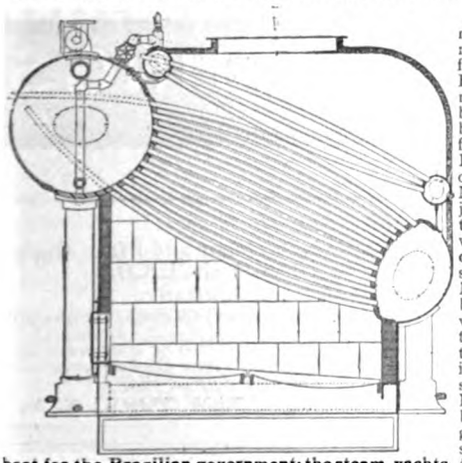
A set of tables showing the time required at different rates of speed, 8 to 15 miles an hour, to cover distances between all ports on the Great Lakes. A time saver to the vessel owner or vessel agent as well as captain or engineer. Send for it on approval.

Price $1.00

MARINE REVIEW

39-41 Wade Building. Cleveland, Ohio

THE MOSHER PATENT WATERTUBE BOILER.



Simplest, lightest and most compact boiler made. Most accessible for cleaning and repair. Five vertical rows or as many as 45 tubes may be cleaned or withdrawn by removing the cover from a single hand hole. Largest grate surface on a given floor space. No joints in the fire. All joints expanded. Greater steam room and water capacity than any other boiler. Built in sizes up to 2000 H. P. Mosher Boilers have been supplied for eleven torpedo boats and the monitor Florida of the U.S. Navy, amounting to over 26,000 H.P.; six torpedo boats for the Russian Navy, two gunboats for the Mexican government, one cruiser and one torpedo boat for the Brazilian government; the steam yachts Arrow, Ellide, Feiseen, Wauneta, Presto, and numerous other yachts and vessels.

SEND FOR DESCRIPTIVE CATALOGUE.

MOSHER WATERTUBE BOILER CO., No. 1 BROADWAY, N. Y.

TEXT BOOK OF

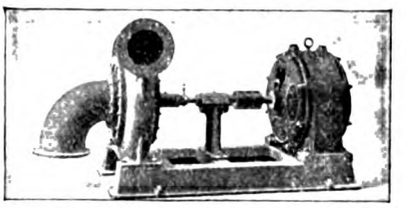
NAVAL ARCHITECTURE,

BY J. J. WELCH.

$1.50.

MARINE REVIEW, - - CLEVELAND.

Westinghouse Motors



Type C Induction Motor Driving Centrifugal Pump.

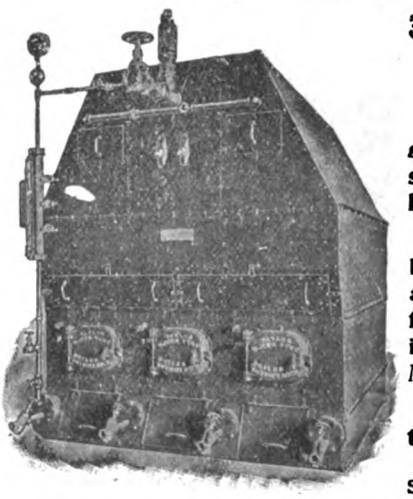
Compact, Durable, Efficient.

Westinghouse Electric & Mfg. Co.

Sales Offices in all Large Cities. Pittsburgh, Pa.

For Canada: Canadian Westinghouse Co., Limited, Hamilton, Ont

Taylor Water Tube Boiler Co.



322 Franklin St., DETROIT, MICH.

Vertical Tubes, sectional, large steam space and liberating area.

Fire box, combustion chamber, and course for the furnace gases similar to the Scotch Marine.

Free circulation type.

Send for full description.

The MARTIN-BARRISS CO.

IMPORTERS AND MANUFACTURERS OF

MAHOGANY, WHITE MAHOGANY

AND ALL NATIVE CABINET WOODS

High Grades of Kiln Dried Woods for Cabin Work and Inside Trim.

White Oak Timbers and Plank

Constantly on Hand and Sawed to Order on Short Notice,

654 SENECA ST. & CLEVELAND, O.

CRANE VALVES

ESTABLISHED 1855

DON'T BUY GASOLINE ENGINES

UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline engine superior to all one cylinder engines; revolutionizing gas power. Costs **Less to Buy** and **Less to Run.** Quickly, easily started. No vibration. Can be mounted on any wagon at small cost—portable, stationary or traction. Mention this paper. SEND FOR CATALOGUE. **THE TEMPLE PUMP CO., Mfrs., Meagher & 15th Sts., Chicago,** THIS IS OUR FIFTY-FIRST YEAR.

Generated on 2024-07-26 22:37 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

CHARLES E. PECK. WILLIAM A. PRIME.

CHAS. E. & W. F. PECK,

Insurance Brokers. Average Adjusters.

ESTABLISHED 1870.

NEW YORK, 58 William Street,
BOSTON, 153 Milk St.
BUFFALO, 906 The Fidelity Bldg.
CLEVELAND, 1107-8 Williamson Bldg.
CHICAGO, 1115-16 Royal Insurance Bldg.

REPRESENTED BY
C. T. BOWRING & CO., (Insurance) LTD.,
5 and 6 Billiter Ave., LONDON,
and at "LLOYD'S" LONDON.

HULLS and CARGOES.

We place insurances in the most advantageous markets, employing, in the interest of our clients and with equal facility, all Foreign and Home companies, at the best procurable rates and terms.

We Represent Only the Assured.

The Only Standard American Classification of Shipping.

Has Authorized Agents in all the principal ports of the world to protect the interests of its patrons. Vessels built under its rules, or holding certificates of class in this Record of Shipping will, with their Cargoes, insure at lowest rates. Office, 66 Beaver Street, New York.

A. A. RAVEN, President. W. R. T. JONES, Vice President,
W. H. H. MOORE, Treasurer. W. IRVING COMES, Secretary.

NEW HARBOR CHARTS OF THE LAKES.

Following is a list of harbor charts recently issued from the United States Lake Survey Office, all in colors: Duluth and Superior Harbors, Two Harbors, Ashland, Marquette, Milwaukee, Chicago, Muskegon, Charlevoix, Michigan City, Toledo Sandusky, Cleveland, Lorain, Fairport, Ashtabula, Conneaut, Erie, Dunkirk, Buffalo and Oswego.

For sale by THE MARINE REVIEW,

39-41 WADE BUILDING, CLEVELAND, O.

The Donnelly Salvage and Wrecking Co., Ltd.,

JOHN DONNELLY, SR., Pres.
JOHN DONNELLY, JR., Vice-Pres.
H. B. FOLGER, Treas.
THOS. DONNELLY, Secy.

KINGSTON ONT.

DIVERS, STEAM PUMPS, TUGS, Etc.

SUPPLIED ON SHORTEST NOTICE.

GREAT LAKES REGISTER

FOR THE
CLASSIFICATION OF STEEL AND WOODEN VESSELS.

Estb. 1828 Estb. 1896

COMBINED AND ISSUED IN CONNECTION WITH

BUREAU VERITAS

INTERNATIONAL REGISTER OF SHIPPING.

THE RATINGS OF GREAT LAKES REGISTER GO BEFORE AND ARE ACCEPTED BY THE LEADING UNDERWRITERS OF AMERICA AND EUROPE. VESSELS BUILT UNDER THE SUPERVISION OF ITS SURVEYORS WILL RECEIVE SPECIAL RATING, AND WILL ALSO BE PUBLISHED IN BUREAU VERITAS INTERNATIONAL REGISTER OF SHIPPING.

PLANS AND SPECIFICATIONS FURNISHED.

GREAT LAKES REGISTER SURVEYORS ARE ESTABLISHED AT ALL THE PRINCIPAL PORTS ON THE GREAT LAKES.

F. D. HERRIMAN, SURVEYOR GENERAL,
320-322 Perry-Payne Building, - - - CLEVELAND, O.

CRANE FITTINGS

ESTABLISHED 1865.

THE FRANKFORT Marine, Accident and Plate Glass INSURANCE CO.

of FRANKFORT-ON-THE-MAIN, GERMANY.

Employers Teams and Public Liability, Elevator Insurance, Workmen's Collective, Individual Accident.

For the security of Policyholders in the United States of America, a deposit has been made in the States of Massachusetts and New York of $400,000.00 in United States Bonds. *UNITED STATES DEPARTMENT,*

100 WILLIAM ST., NEW YORK, N. Y.

F. G. VOSS, Manager and Attorney.

INSURANCE

GEO. L. McCURDY
169 Jackson Boulevard
CHICAGO ILLINOIS

Direct Representative of Leading American and Foreign Underwriters

HULLS AND CARGOES

Generated on 2024-07-26 22:37 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

Thirty Years' Experience building

Engines
and
Propeller Wheels.

H. G. TROUT,
King Iron Works,
226 Ohio St.,
BUFFALO, N. Y.

GEO. STRATFORD OAKUM CO.
JERSEY CITY, NEW JERSEY.
Established 1860

Manufacturers of all grades of
Oakum
Spun Cotton

FOR SALE AT SHIP CHANDLERS EVERYWHERE.

AIDS TO NAVIGATION

are of vital importance to vessel interests.

SCHERZER ROLLING LIFT BRIDGES

aid navigation and meet with the approval of all vessel interests, because of the wide and unobstructed channel provided for navigation, enabling vessels to pass easily and rapidly through the draw.

The SCHERZER ROLLING LIFT BRIDGE Co.,
Main Offices: 1616 Monadnock Block,
CHICAGO, U. S. A.

PRESERVE your copy of the MARINE REVIEW by binding it each week into the "Emerson Binder." Copies for a full year can be inserted in one binder.

These binders mailed to any address upon receipt of $1.

MARINE REVIEW
39-41 Wade Bldg.
CLEVELAND, OHIO.

ESTABLISHED 1854

SHERIFFS' STEAM STEERER

For Tug Boat Use
Easy to adjust, and can be handled by any one.

MANUFACTURED BY
SHERIFFS MFG. CO.,
Milwaukee, Wis.

Buffalo
Wrought Steel Ranges
Are the Best.

Steamboat and Barge Ranges with Rotary Grates.
No Cog Wheels to Warp or get out of order.

Don't take our word for it but ask some one using them.

Russell & Watson,
BUFFALO, N. Y.

General Steamboat Work
Send for Catalogue.

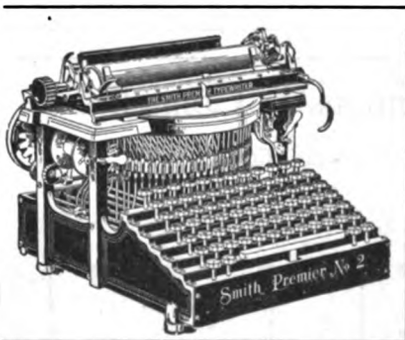
AGENTS—Topky Bros., Ashtabula Harbor, Ohio.
H. C. Weber & Co., Detroit, Mich.
John Black, So. Chicago, Ill.
Pritzlaff Bros., Milwaukee, Wis.

Holzapfel's
Danboline and Lagoline Compositions
are made expressly for bunkers, holds, peaks and outsides of steel vessels. For prices and particulars apply to
JAMES NACEY, 208 Western Reserve Building,
AGENT FOR THE GREAT LAKES DISTRICT. *Cleveland, O.*
Main office: Holzapfel's American Compositions Co., 18 B'way, New York.

All of the latest and largest **LAKE STEAMSHIPS** are completely equipped with **BLAKE**

DUPLEX AND SIMPLEX SPECIAL MARINE PUMPS.
New Marine Catalog ready about July 1st.

Geo. F. Blake Mfg. Co.
114 Liberty St., :: :: :: NEW YORK CITY



For practical work; for saving time; for long service and complete satisfaction, no other typewriter quite equals

The Smith Premier.

A little booklet explaining just why this is so will be sent on request. Better ask about it today.

THE SMITH PREMIER TYPEWRITER CO.
158 Prospect Street • • Cleveland, O.

Generated on 2024-07-26 22:38 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

BUFFALO DREDGING CO.

GENERAL CONTRACTORS
ON
SUBMARINE WORK

Office D. S. MORGAN BLDG.
BUFFALO, N. Y.

HICKLER BROTHERS

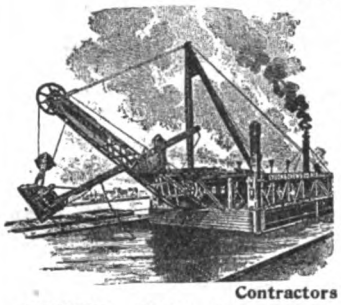
MARINE RAILWAY

Capacity, 1,000 tons.
Draft, 7½ ft. forward, 13½ ft. aft.
Length on keel blocks, 180 ft.; over all, 190 ft.

Machine Shop, Foundry and Steam Forge.
Dredges, Drill Boats and Derrick Scows.

SAULT STE. MARIE, - MICH.

CHICAGO & GREAT LAKES
DREDGE AND DOCK CO.



OWNS AND OPERATES THE PLANTS OF THE FORMER COMPANIES:

Lydon & Drews Co.,
Hausler & Lutz Co.,
Green's Dredging Co.,
Chicago Star Con. & D. Co.,
McMahon & Montgomery Co.,
Chicago Dredging & Dock Co.,
Griffith, McDermott & Watt Dredging Co.

Contractors for
RIVER AND HARBOR IMPROVEMENTS.
Main Office:—1319-1322 Chamber of Commerce - CHICAGO.

Lake Superior Contracting & Dredging Co.

General Contractors for Public and Private Work and River and Harbor Improvements.

Offices, Wolvin Building, DULUTH, MINN.

Dunbar & Sullivan Dredging Co., of Buffalo, N. Y.

Will contract to remove ROCK or EARTH on the Great Lakes to 40 ft. depth.
To remove ROCK on Atlantic Coast to 40 ft. depth.
THAT'S ALL.

We SOMETIMES rent plant to responsible parties at OUR terms.

Dredges.
Brian Boru, Steel.
Tipperary Boy, Steel.
Erin Go Braugh.

Drill Boats.
Geo. A. Howells and another, both Steel.

Tugs.
Shaughraun, Steel.
Phil Sheridan, Steel.
Spalpeen, Steel.
Paddy Miles, Steel.
Shaun Rhue, Steel.

Derrick.
Faugh a Ballaugh.

Scows.

Monroe Doctrine,	600 yds., Steel.
Protective Policy,	500 yds., Steel.
Reciprocity,	600 yds., Steel.
Cuba Libre,	250 yds., Steel.
Gold Standard,	250 yds., Steel.
No. 5,	600
No. 6,	600
No. 7,	600
No. 8,	600
	4,600

McMyler derrick handling 10 tons at 75 ft. radius.

Small Scows.

THE L. P. & J. A. SMITH COMPANY.

CONTRACTORS FOR PUBLIC WORKS

Dredging,	Dry Docks and	Bridges,
Harbor Work,	Pier Building,	Submarine
Pile Driving,	Railroads,	Foundations,
Breakwaters,	Canals,	Etc., Etc.

Offices: Williamson Bldg., Cleveland, O.

The Fitz-Simons & Connell Co.

CONTRACTORS
FOR
PUBLIC WORKS

DREDGING
DOCKS
PILE DRIVING
BREAKWATERS

TUNNELS
CANALS
BRIDGES
FOUNDATIONS

Offices: 1010-1014 Tacoma Building, Chicago.

C. H. STARKE DREDGE & DOCK CO.,

Contractors for Public Works.

DREDGING, PILE DRIVING,
AND
SUBMARINE PIPE LAYING.

Canal Street, West of First Avenue,
Milwaukee, - - Wisconsin.

Generated on 2024-07-26 22:38 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

M. SULLIVAN,

DREDGING OF ALL KINDS.

THE REMOVING OF DEEP WATER EARTH AND ROCK A SPECIALTY. - - -

53 Woodward Ave. Terrace,
DETROIT, - - - MICH.

RITCHIE LIQUID COMPASS

The Standard Liquid Compass Used Exclusively by the United States Navy For Over 35 Years.

Over 25,000 Used in Merchant Service.

Made in all sizes and styles, from 2 to 12 inches diameter of card. All compasses made by us have our name printed below the North point, or prominently upon the card. NONE OTHER ARE GENUINE. Latest form with four or six needles, the best instrument for iron ships. For sale by ship chandlers and nautical instrument dealers.

CATALOGUE FREE.

E. S. RITCHIE & SONS,

Manufacturers of Nautical and Physical Apparatus,
BROOKLINE, MASS., U. S. A.

Steamboat Fuel at Ashtabula.

Large Supplies of Best Quality.

Lighter Carrying Different Grades at all Times.

Fuel Scow with elevators and discharging spouts. Storage of 800 tons. Discharges 250 tons an hour into steamers while unloading cargo.

M. A. Hanna & Co., *Miners and Shippers,*

Main Office, Perry-Payne Bldg., Cleveland.

STEAMBOAT FUEL

at TOLEDO and HURON.

IRONVILLE DOCK & COAL CO.,

429 Spitzer Building, Toledo, Ohio.

Office, Main 1513. : : : Bell Phones : : : Dock, East 63.

Coal of Best Quality MASSILLON & PITTSBURG No. 8.

J. B. COWLE, Pres. W. E. PERKINS, Sec'y and Treas
MAT. THOMAS, Gen'l Mgr.

The Union Machine & Boiler Company,

MACHINISTS, FOUNDERS AND BOILER MAKERS.

Jobbing solicited. Steel vessel repairs promptly attended to night or day.

108 TO 114 RIVER STREET. CLEVELAND, O.

Phones: Bell Main 609. Cuy. A. 711. Night Call Cuy. M. 1848.

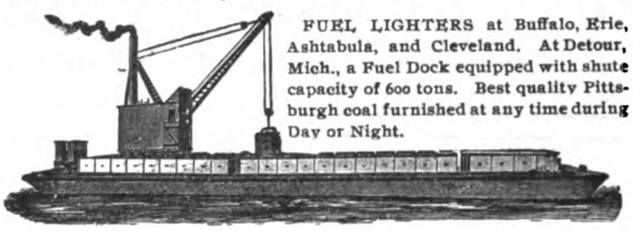
ABRAM SMITH & SON,

ALGONAC, MICH.

Wooden Ship Building and Rebuilding.

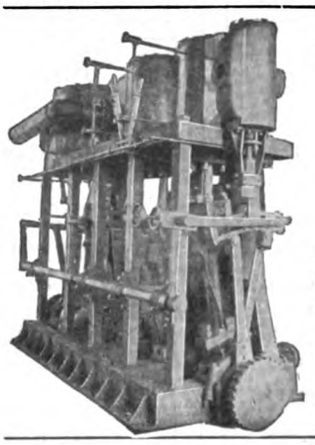
Before placing your work we will be pleased with an opportunity to quote YOU our prices.

PICKANDS, MATHER & CO.,



FUEL LIGHTERS at Buffalo, Erie, Ashtabula, and Cleveland. At Detour, Mich., a Fuel Dock equipped with shute capacity of 600 tons. Best quality Pittsburgh coal furnished at any time during Day or Night.

Western Reserve Building, CLEVELAND, O.



Chas. P. Willard & Co.,

F. C. WALTER, MANAGER,
30 W. Randolph St.,
CHICAGO.

Builders of

Marine Engines and Boilers,
Paddle Wheel Engines,
Boat Machinery,
High Pressure, Compound and Triple Expansion Engines,
Yachts and Launches.

Write for Catalogue.

De Grauw, Aymar & Company.

ESTABLISHED 1827.

Cordage, Oakum, Vessel and Railroad Supplies.

SOLE MANUFACTURERS IN THE UNITED STATES FOR

TYZACK'S STOCKLESS ANCHORS.

NEW YORK CITY.

BETTER and More ECONOMICAL than DRILLED BOLTS

ANY SIZE OUTSIDE OR INSIDE DIAMETER.
AVERAGE LENGTH OF HOLLOW BARS EIGHT TO TEN FEET.
FALLS HOLLOW STAYBOLT Co
STAYBOLTS,
BOTH HOLLOW AND SOLID,
MADE OF BEST QUALITY DOUBLE REFINED CHARCOAL IRON OR STEEL.
CUYAHOGA FALLS, O. U.S.A.

FALLS HOLLOW BOLTS are self-inspectors. Afford protection against explosions. Are of uniform strength and flexibility. Hole is central, admits air, which aids combustion. Superior quality guaranteed. Samples of either Hollow or Solid furnished on application. Ask for our latest price list.

Generated on 2024-07-26 22:38 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

VESSEL AND INSURANCE AGENTS.

T. R. McCARTHY,
Steamship and Freight Broker;
Chartering, Forwarding and General Commission Agent; and Broker for the Sale, Purchase and Construction of Steamers and Sailing Vessels.
Marine and Fire Insurance Effected.
Cable Address, "Macarthy, Montreal."
(Watkins', Scott's Liebers and A. B. C. Codes Used.)
Shipping Agent to The Asbestos & Asbestic Co., Ltd., of Danville, Que., and The Belgo Pulp & Paper Co., Shawinigan Falls, Que.
404 Board of Trade Bldg., MONTREAL, CAN.
Correspondence Invited and Agencies Solicited.

S. S. LESTER,
Steamship Agent and Freight Broker.
Manager Steamer
ST. LAWRENCE,
83 Dalhousie St. QUEBEC, QUE.

Insurance.
PRINDIVILLE & COMPANY,
Average Adjusters.
Insurance Brokers.
12 Sherman Street,
CHICAGO.
Representing:
Johnson & Higgins, New York.
Represented by:
Willis Faber & Co., Ltd., London.
Jno. D. Tyson & Co., Liverpool.

P. H. FLEMING & CO.
Insurance and Vessel Agents.
Marine, Fire, Ocean, Liability.
Telephone, Harrison 1359.
No. 2 Sherman St., CHICAGO, ILL.

C. W. Elphicke. J. J. Rardon. M. C. Reuter.
C. W. ELPHICKE & CO.
Vessel and Insurance Agents.
No. 6 Sherman St., CHICAGO, ILL.
Telephone, Harrison 1194.

D. Sullivan. F. J. Sullivan.
D. SULLIVAN & CO.
Vessel Agents.
Marine Insurance.
2-4 Sherman St., CHICAGO, ILL.
Office Tel., Harrison 2847. Res. Ashland 2483.

W. A. Hawgood. Arthur H. Hawgood.
W. A. HAWGOOD & CO.
Vessel and Insurance Agents.
220-21 Perry-Payne Bldg., Cleveland, O.
Telephones: Office, Main 2395. Res. W. A. Hawgood, Doan 84-J. Res. A. H. Hawgood, Doan 841-J.

J. Mitchell. J. F. Wedow. A. Mitchell.
MITCHELL & CO.
Vessel and Insurance Agents.
508-10 Perry-Payne Bldg., Cleveland, O.
Office Tel. M. 767. Res. John Mitchell, Doan 341. John F. Wedow, Doan 141-J. Alfred Mitchell, Doan 218

VESSEL AND INSURANCE AGENTS.

C. L. Hutchinson. W. H. McGean.
HUTCHINSON & CO.
Vessel and Insurance Agents.
Phones: Office, Main 2453. Res. C. L. Hutchinson, Ridge 345 L. Res. W. H. McGean, East 1421-J.
313-15 Perry-Payne Bldg., Cleveland, O.

W. C. RICHARDSON,
Vessel Owner and Broker and Marine Insurance Agent.
420-421 Perry Payne Building,
CLEVELAND, O.
Office Tel., 338. Residence Tel., 2938.

C. P. GILCHRIST & CO.
Vessel and Insurance Agents.
Sale and Exchange of Vessels a Specialty. Lumber and Coal Chartering.
Full Telephone Service, Office and Residence. (Local and Long Distance.)
411 Perry-Payne Bldg., Cleveland, O.

John B. Hall. Harry B. Root.
HALL & ROOT,
Vessel Agents.
21-22 Exchange Bldg., 202 Main St.,
Telephone, Seneca 892. BUFFALO, N. Y.

JOHN J. BOLAND,
Vessel and Insurance Agent.
25-26 Exchange Bldg., 202 Main St.,
Telephone, Seneca 115. BUFFALO, N. Y.

PARKER BROS. CO., LTD.,
Vessel, Marine Insurance and Wrecking Agents. Marine Surveyors.
Office Tel. Main 5314. Night: Main 290. Night: Grand 1723 J.
15 Atwater St. West, DETROIT, MICH.

D. T. HELM & CO.
Vessel and Insurance Agents.
Telephones—Office 263. Res. 381-3.
DULUTH, - - - MINN.

SAMUEL HOLMES,
Steamship Offices,
For Selling, Chartering and Building all Classes Steam Vessels
Steam Vessel Circulars
Weekly Freight Circulars
Morris Bldg, 66-8 Broad St., New York.

PROCTORS IN ADMIRALTY.

C. E. KREMER,
Counselor at Law and Proctor in Admiralty.
Suite 821-822 New York Life Bldg.,
CHICAGO, ILL.

HOYT, DUSTIN & KELLEY,
Lawyers and Proctors in Admiralty.
Offices, 702 Western Reserve Building,
CLEVELAND, O.

WHITE, JOHNSON, McCASLIN & CANNON,
Attorneys-at-Law and Proctors in Admiralty.
Williamson Bldg, CLEVELAND, O.

GOULDER, HOLDING & MASTEN,
Law Offices.
H. D. Goulder. S. H. Holding. F. S. Masten.
Perry Payne Building,
CLEVELAND, O.

ALBERT J. GILCHRIST,
Proctor in Admiralty.
604 Perry Payne Building,
CLEVELAND, O.

HAND BOOK
OF
ADMIRALTY LAW,
by
ROBT. M. HUGHES,
Price, $3.75
THE PENTON PUB. CO.,
Cleveland, O.

MARINE INSURANCE,
by
WILLIAM GOW.
Price, $1.50
THE PENTON PUB. CO.,
Cleveland, O.

Generated on 2024-07-26 22:38 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

PROCTORS IN ADMIRALTY.

Geo. S. Potter. Meredith Potter.

POTTER & POTTER,
Lawyers and Proctors in Admiralty.

35-36 Dun Building, 110 Pearl Street,
BUFFALO, N. Y.

RAY G. MacDONALD,
Attorney-at-Law and Proctor in Admiralty.

630 First National Bank Building,
Telephone, Central 8507 Automatic 8085 CHICAGO, ILL.

SHAW, WARREN, CADY & OAKES,
Attorneys-at-Law.

904 to 907 Union Trust Building,
Telephone, 625. DETROIT, MICH.

NAVAL ARCHITECTURE,
by
THOS. H. WATSON.

A manual on laying off iron and steel vessels. Valuable for naval architects as well as beginners in ship yards.

Price, $5.00

Order from
THE PENTON PUB. CO.,
Cleveland, O.

PROFESSIONAL.

W. J. WOOD,
Naval Architect, Consulting Engineer.

Prepares designs or working drawings and specifications for all classes of vessels and superintends construction and repairs. Surveys damaged property and estimates cost of repairs. Arbitrator and court expert.

FIRE BOATS A SPECIALTY.

Complete Plans furnished for Steel, Composite or Wooden Vessels.

709 Rialto Building, CHICAGO.

Tel. Harrison 1020.

HENRY RICE and
H. O. LOVEJOY,
Naval Architects.
Consulting Engineers.

Surveyors of Wood and Steel Ships, Engines and Boilers. Estimates of cost given. Superintendence of building and repairing. Plans and specifications furnished for all classes of ships.

Lines and models furnished.

Room 18,
202 Main Street., BUFFALO, N. Y.

JOSEPH KIDD,
Marine Architect and Surveyor.
Consulting Ship Builder and Engineer

Over thirty years' experience. Specifications, designs and estimates. Superintendence of construction and repairs. Damage and other surveys carefully attended to. Negotiations for the building, charter or sale of all kinds of vessels and machinery.

610 Board of Trade,

DULUTH, MINN.

ROBERT W. HUNT & CO.,
Bureau of Inspection.
Tests and Consultation.

1121 The Rookery, CHICAGO.

Monong. Bank Bldg., PITTSBURG

66 Broadway, NEW YORK.

Inspectors of shipbuilding material and machinery. Inspectors of all materials. Duty tests of engines and boilers. Physical and chemical laboratories.

AMBROSE V. POWELL,
Member American Society Civil Engineers
Civil Engineer.
Designs and Constructs Dry Docks, Harbor Works, Docks, and Plant for Handling Coal and Ore, Foundations
Office, 1008 Chamber of Commerce,
CHICAGO, ILL.

PROFESSIONAL.

H. Matteson, Jr. Geo. B. Drake.

MATTESON & DRAKE,
Naval Architects and Consulting Engineers.

Designing and Superintendence of building and repairing steel and wooden vessels.

Bulk oil vessels a specialty.

Agents for marine specialties.

706-707 Bourse, PHILADELPHIA.

ADAM STEEL, JAS. NACEY, ALEXANDER HYND,
Marine Architects.
Mechanical Draughtsmen.
Consulting Engineers.

Specifications and designs for all descriptions of marine vessels, engines and boilers. Supervision of construction and repairs. Damage and other surveys carefully attended to.

208-9 Western Reserve Building,
CLEVELAND, O.

Phone, Main 3339 J.

PITTSBURGH TESTING LABORATORY, Ltd.,
Inspecting and Metallurgical Engineers and Chemists.

Inspectors of shipbuilding materials and machinery. Inspectors located at all mills. Physical and chemical laboratories. Tests of all kinds.

1750 Monadnock, CHICAGO.
235 Water Street, PITTSBURG.

906-7 Crozier Building, Philadelphia,
New York City, 60 New Street,
Richmond, Va., 1107½ Main Street.

Members Maritime Association Port of N. Y.
SADLER, PERKINS & FIELD,
Naval Architects and Engineers.
Chartering and Brokerage.
Maritime Bldg., New York.
NEW YORK. DETROIT.

NAVAL ARCHITECTS' AND ENGINEERS' DATA BOOK,
By T. H. WATSON.
Price, $1.50
THE PENTON PUB. CO.,
Cleveland, O.

Generated on 2024-07-26 22:38 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

Buyers' Directory of the Marine Trade

For a more complete classification than that represented by advertisers in the Marine Review, see the BLUE BOOK OF AMERICAN SHIPPING, marine and naval directory of the United States, published by the Marine Review, 39-41 Wade Bldg., Cleveland.

See accompanying index of Advertisers for full addresses of concerns in this directory.

AIR COMPRESSORS, AIR HOISTS, ETC.

Dake Engine Co.....Grand Haven, Mich.
Great Lakes Engineering Works.....Detroit.
Mietz, Aug. .....New York.

AIR PORTS, DEAD LIGHTS, ETC.

Marine Mfg. & Supply Co.....New York.

AIR PUMPS AND APPLIANCES.

Fore River Ship & Engine Co..Quincy, Mass.
Great Lakes Engineering Works.....Detroit.

ANCHORS.

Baldt Anchor Co.....Chester, Pa.
Bowers, L. M. & Co.....Binghamton, N. Y.
DeGrauw, Aymar & Co.....New York.
Seaboard Steel Casting Co.....Chester, Pa.

ANTI-FOULING AND ANTI-CORROSIVE COMPOSITION FOR STEEL VESSELS.

Holzapfel's American Composition Co..New York.

ANTI-FRICTION METALS.

Cramp, Wm. & Sons.....Philadelphia.
Phosphor Bronze Smelting Co., Ltd.....
.....Philadelphia.
Victor Metals Co.....Braintree, Mass.

ARTIFICIAL DRAFT FOR BOILERS.

American Ship Building Co.....Cleveland.
Detroit Ship Building Co.....Detroit.
Great Lakes Engineering Works.....Detroit.
Sturtevant, B. F., Co.....Hyde Park, Mass

ASH EJECTORS.

Great Lakes Engineering Works.....Detroit.

ATTORNEYS AND PROCTORS IN ADMIRALTY.

Gilchrist, Albert J.....Cleveland.
Goulder, Holding & Masten.....Cleveland.
Hoyt, Dustin & Kelley.....Cleveland.
Kremer, C. E.....Chicago.
MacDonald, Ray G.....Chicago.
Potter & Potter .....Buffalo.
Shaw, Warren, Cady & Oakes.....Detroit.
White, Johnson, McCaslin & Cannon Cleveland.

BAROMETERS, MARINE GLASSES, ETC.

Ritchie, E. S. & Sons.....Brookline, Mass.

BELTING, RUBBER.

New York Belting & Packing Co....New York.

BLOCKS, SHEAVES, ETC.

Boston & Lockport Block Co....Boston, Mass.
Cleveland Block Co.....Cleveland.

BLOWERS.

Sturtevant, B. F. Co. .....Hyde Park, Mass.

BOAT BUILDERS.

Dream, Thos. & Son.....Wilmington, Del.
Kahnweiler's Sons, David.....New York.
Lane & DeGroot ....Long Island City, N. Y.
Marine Construction & D. D. Co.....
.....Mariner's Harbor, S. I., N. Y.
Truscott Boat Mfg. Co....St. Joseph, Mich.
Willard, Chas. P. & Co.....Chicago.

BOILER COMPOUNDS.

Dearborn Drug & Chemical Works....Chicago.

BOILER MANUFACTURERS.

Almy Water Tube Boiler Co.Providence, R. I.
American Ship Building Co.....Cleveland.
Atlantic Works .....East Boston, Mass.
Babcock & Wilcox Co.....New York.
Bertram Engine Works Co., Ltd. .....
..... Toronto, Can.
Chicago Ship Building Co.....Chicago.
Cramp, Wm. & Sons.....Philadelphia.
Delauney, Belleville & Co..St. Denis, France.
Detroit Ship Building Co.....Detroit.
Fletcher, W. A. & Co.....Hoboken, N. J.
Fore River Shipbuilding Co .....Quincy, Mass
Forest City Boiler Co.....Cleveland.
Georgian Bay Engineering Works.....
..... Midland, Ont.

BOILER MANUFACTURERS—Continued.

Gogebic Steam Boiler Works....Duluth, Minn.
Great Lakes Engineering Works.....Detroit.
Jenks Ship Building Co....Port Huron, Mich.
Kingsford Foundry & Machine Works....
.....Oswego, N. Y.
Milwaukee Dry Dock Co.....Milwaukee.
Mosher Water Tube Boiler Co....New York.
Newport News Ship Building Co.....
.....Newport News, Va.
Northwestern Steam Boiler & Mfg. Co....
..... Duluth, Minn.
Roberts Safety Water Tube Boiler Co....
..... New York.
Stirling, The Co.....Chicago.
Superior Ship Building Co....Superior, Wis.
Taylor Water Tube Boiler Co.....Detroit.
Union Machine & Boiler Co.....Cleveland.
United States Ship Building Co....New York.
Willard, Chas. P. & Co.....Chicago.

BOILER RIVETS.

Bourne-Fuller Co.. ....Cleveland.

BOILER STAYBOLTS, IRON OR STEEL, HOLLOW OR SOLID.

Falls Hollow Staybolt Co..Cuyahoga Falls, O.

BRASS AND BRONZE CASTINGS.

Cramp, Wm. & Sons.....Philadelphia.
Fore River Ship & Engine Co..Quincy, Mass.
Great Lakes Engineering Works.....Detroit.
Lunkenheimer Co. .....Cincinnati.
Macbeth Iron Co.....Cleveland.
Phosphor Bronze Smelting Co....Philadelphia.
Victor Metals Co.....Braintree, Mass.

BRIDGES, BUILDERS OF.

Scherzer Rolling Lift Bridge Co....Chicago.

BUCKETS, ORE AND COAL.

Brown Hoisting & Conveying Machine Co.
..... Cleveland.
Forest City Boiler Co. .....Cleveland.
Macbeth Iron Co. .....Cleveland.

CABIN AND CABINET FINISHING WOODS.

Martin-Barriss Co.....Cleveland.

CAPSTANS.

American Ship Windlass Co..Providence, R. I.
Hyde Windlass Co.....Bath, Me.
Marine Mfg. & Supply Co.....New York.

CEMENT, IRON FOR REPAIRING LEAKS.

Smooth-On Mfg. Co.....Jersey City, N. J.

CHAINS.

Lebanon Chain Works.....Lebanon, Pa.

CHAIN HOISTS.

Boston & Lockport Block Co....Boston, Mass.
Dake Engine Co.....Grand Haven, Mich.

CHARTS.

Penton Publishing Co. ..... Cleveland.
Potter, J. D.....London.

CLOCKS (Marine and Ship's Bell) AND CHRONOMETERS.

Ashton Valve Co.....Boston.
Ritchie, E. S. & Sons.....Brookline, Mass.
Standard Gauge Mfg. Co.....Syracuse, N. Y.

COAL PRODUCERS AND SHIPPERS.

Hanna, M. A. & Co.....Cleveland.
Pickands, Mather & Co.....Cleveland.
Pittsburg Coal Co.....Cleveland.

COAL AND ORE HANDLING MACHINERY.

Brown Hoisting Machinery Co. (Inc.) ..
..... Cleveland.
Macbeth Iron Co.....Cleveland.

COMPASSES.

Ritchie, E. S. & Sons.....Brookline, Mass.

COMPOSITIONS FOR SHIP'S BOTTOMS.

Holzapfel's American Compositions Co.New York.

CONCRETE MIXERS.

Contractors Supply & Equipment Co..Chicago.

CONDENSORS.

Great Lakes Engineering Works.. Detroit.
Thropp & Sons Co., John E....Trenton, N. J.

CONTRACTORS SUPPLIES.

Contractors Supply & Equipment Co., Chicago.

CONTRACTORS FOR PUBLIC WORKS.

Buffalo Dredging Co.....Buffalo.
Chicago & Gt. Lakes Dredge & Dock Co.
..... Chicago.
Dunbar & Sullivan Dredging Co.....Buffalo.
Fitz-Simons & Connell Co.....Chicago.
Hickler Bros. .....Sault Ste. Marie, Mich.
Lake Superior Contracting & Dredging Co..
.....Duluth, Minn.
Smith Co., L. P. & J. A.....Cleveland.
Starke Dredge & Dock Co., C. H..Milwaukee.
Sullivan, M. .....Detroit.

CORDAGE.

Baker & Co., H. H.....Buffalo
DeGrauw, Aymar & Co.....New York.
Upson-Walton Co.....Cleveland.

CORK JACKETS AND RINGS.

Armstrong Cork Co.....Pittsburg, Pa.
Kahnweiler's Sons, D.....New York.

COURSE FINDER.

Field's Patent Course Finder.....Cleveland.

CHAIN CONVEYORS, HOISTS.

Brown Hoisting Machinery Co. (Inc.)....
..... Cleveland
General Electric Co.....Schenectady, N. Y.
Westinghouse Electric & Mfg. Co.....
.....Pittsburg, Pa.

CRANES, TRAVELING.

Brown Hoisting Machinery Co.....Cleveland.
Pawling & Harnischfeger.....Milwaukee.

DIVING APPARATUS.

Morse, A. J. & Son.....Boston.
Schrader's Son, A.....New York.

DREDGING CONTRACTORS.

Buffalo Dredging Co.....Buffalo.
Chicago & Gt. Lakes Dredge & Dock Co..
..... Chicago.
Dunbar & Sullivan Dredging Co.....Buffalo.
Fitz-Simons & Connell Co.....Chicago.
Hickler Bros. .....Sault Ste. Marie, Mich.
Lake Superior Contracting & Dredging Co..
.....Duluth, Minn.
Smith Co., L. P. & J. A.....Cleveland.
Starke Dredge & Dock Co., C. H...Milwaukee.
Sullivan, M. .....Detroit.

DRYING APPARATUS.

Sturtevant, B. F., Co. ..... Hyde Park, Mass

DRY DOCKS.

American Ship Building Co.....Cleveland.
Atlantic Works .....East Boston, Mass.
Buffalo Dry Dock Co.....Buffalo.
Chicago Ship Building Co.....Chicago.
Craig Ship Building Co.....Toledo, O.
Cramp, Wm. & Sons.....Philadelphia.
Detroit Ship Building Co.....Detroit.
Great Lakes Engineering Works.....Detroit.
Lockwood Mfg. Co.....East Boston, Mass
Manitowoc Dry Dock Co.....Manitowoc, Wis.
Milwaukee Dry Dock Co.....Milwaukee.
Newport News Ship Building Co.....
.....Newport News, Va.
Shipowners Dry Dock Co.....Chicago.
Superior Ship Building Co....Superior, Wis.
United States Ship Building Co....New York.

Generated on 2024-07-26 22:38 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

Buyers' Directory of the Marine Trade.—*Continued.*

ELECTRIC HOISTS AND CRANES.

Fisher Electrical Works.....Detroit.
General Electric Co.....Schenectady, N. Y.
Pawling & Harnischfeger.....Milwaukee.
Westinghouse Electric & Mfg. Co.....
..... Pittsburg, Pa.

ELECTRIC LIGHT AND POWER PLANTS.

Fisher Electrical Works.....Detroit.
General Electric Co.....Schenectady, N. Y.
Mietz, Aug. .....New York.
Sturtevant, B. F. Co.....Hyde Park, Mass.
Thropp & Sons, John E.....Trenton, N. J.
Westinghouse Electric & Mfg. Co.....
..... Pittsburg, Pa.

ENGINE BUILDERS, MARINE.

American Ship Building Co.....Cleveland.
Atlantic Works .....East Boston, Mass.
Bertram Engine Works Co., Ltd. .....
..... Toronto, Can.
Chicago Ship Building Co.....Chicago.
Chase Machine Co.....Cleveland.
Cramp, Wm. & Sons.....Philadelphia.
Craig Ship Building Co.....Toledo, O.
Dake Engine Co.....Grand Haven, Mich.
Detroit Ship Building Co.....Detroit.
Fletcher, W. & A. Co.....Hoboken, N. J.
Fore River Shipbuilding Co.....Quincy, Mass.
Great Lakes Engineering Works Detroit, Mich.
Hall Bros. .....Philadelphia.
Jenks Ship Building Co....Port Huron, Mich.
Lockwood Mfg. Co.....East Boston, Mass.
Macbeth Iron Co.....Cleveland.
Mietz, Aug. .....New York.
Milwaukee Dry Dock Co.....Milwaukee.
Mosher, Chas. D.....New York.
Moulton Steering Engine Co.....New York.
Newport News Ship Building Co.....
.....Newport News, Va.
Northwestern Steam Boiler & Mfg. Co....
.....Duluth, Minn.
Roach's Ship Yard .....Chester, Pa.
Sheriffs Mfg. Co.....Milwaukee.
Superior Ship Building Co....Superior, Wis.
Thropp, J. E. & Sons Co.....Trenton, N. J.
Trout, H. G.....Buffalo.
United States Ship Building Co....New York.
Willard, Chas. P. & Co.....Chicago.

ENGINE ROOM TELEGRAPH, CALL BELLS, ETC.

Cory, Chas. & Son.....New York.
Marine Mfg. Supply Co.....New York.

ENGINEERING SPECIALTIES AND SUPPLIES.

Crane Co.....Chicago.
Kieley & Mueller .....New York.
Lunkenheimer Co. .....Cincinnati.
New York Belting & Packing Co..New York.
Northwestern Steam Boiler & Mfg. Co....
.....Duluth, Minn.

ENGINEERS, MARINE, MECHANICAL, CONSULTING.

Hynd, Alexander .....Cleveland.
Hunt, Robt. W. & Co.....Chicago.
Kidd, Joseph .....Duluth, Minn.
Lovejoy, H. O.....Buffalo.
Matteson & Drake .....Philadelphia.
Mosher, Chas. D.....New York.
Nacey, James .....Cleveland.
Pittsburg Testing Laboratory, Ltd...Pittsburg.
Rice, Henry .....Buffalo.
Roelker, H. B.....New York.
Sadler, Perkins & Field.....New York.
Steel, Adam .....Cleveland.
Wood, W. J. .....Chicago.

FANS FOR VENTILATION, EXHAUST, ETC.

Sturtevant, B. F. Co.....Hyde Park, Mass.

FEED WATER PURIFIERS AND HEATERS.

Ross Valve Co.....Troy, N. Y.

FIXTURES FOR LAMPS, OIL OR ELECTRIC.

General Electric Co.....Schenectady, N. Y.
Westinghouse Electric & Mfg. Co.....
.....Pittsburg, Pa.

FORGES.

Sturtevant, B. F. Co.....Boston.

FORGINGS FOR CRANK, PROPELLER OR THRUST SHAFTS, ETC.

Cleveland City Forge & Iron Co....Cleveland.
Fore River Shipbuilding Co.....Quincy, Mass.
Macbeth Iron Co.....Cleveland.

FLUE WELDING.

Fix's, S. Sons .....Cleveland.

FUEL ECONOMIZERS.

Sturtevant Co., B. F.....Hyde Park, Mass.

FUELING COMPANIES AND COAL DEALERS.

Hanna, M. A. & Co.....Cleveland.
Ironville, Dock & Coal Co.....Toledo, O.
Parker Bros. Co., Ltd.....Detroit.
Picklands, Mather & Co.....Cleveland.
Pittsburg Coal Co.....Cleveland.
Smith, Stanley B., & Co.....Detroit.
Smith Coal & Dock Co., Stanley B.Toledo, O.

FURNACES FOR BOILERS.

Continental Iron Works.....New York.

GASKETS, RUBBER.

New York Belting & Packing Co..New York.

GAS BUOYS.

Safety Car Heating & Lighting Co..New York.

GAS AND GASOLINE ENGINES.

Chase Machine Co.....Cleveland.
Georgian Bay Engineering Works.....
..... Midland, Ont.
Reliance Mfg. Co.....City Island, New York.
Temple Pump Co.....Chicago.

GAUGES, STEAM AND VACUUM.

American Steam Gauge & Valve Mfg. Co.
..... Boston.
Ashton Valve Co.....Boston.
Lunkenheimer Co. .....Cincinnati.
Standard Gauge Mfg. Co.....Syracuse, N. Y.

GAUGES, WATER.

Bonner & Co., Wm. T.....Boston.
Lunkenheimer Co. .....Cincinnati, O.
Standard Gauge Mfg. Co.....Syracuse, N. Y.

GRAPHITE.

Dixon Crucible Co., Joseph..Jersey City, N. J.

HAMMERS, STEAM.

Chase Machine Co.....Cleveland.

HEATING APPARATUS.

Sturtevant, B. F. Co.....Hyde Park, Mass.

HOISTS FOR CARGO, ETC.

American Ship Building Co.....Cleveland.
Brown Hoisting Machinery Co. (Inc.)....
..... Cleveland.
Chase Machine Co.....Cleveland.
General Electric Co.....New York.
Georgian Bay Engineering Works.....
..... Midland, Ont.
Hyde Windlass Co.....Bath, Me.
Marine Iron Co.....Bay City.
Mietz, Aug. .....New York.
Pawling & Harnischfeger .....Milwaukee.
Westinghouse Electric & Mfg. Co.....
.....Pittsburg, Pa.

HOLLOW STAYBOLT IRON.

Falls Hollow Staybolt Co...Cuyahoga Falls, O.

HOSE, RUBBER.

New York Belting & Packing Co..New York.

HYDRAULIC DREDGES.

Great Lakes Engineering Works.....Detroit.

HYDRAULIC TOOLS.

Watson-Stillman Co., The.....New York.

ICE MACHINERY.

Great Lakes Engineering Works.....Detroit.
Roelker, H. B.....New York.

INDICATORS FOR STEAM ENGINES.

American Steam Gauge Co.....Boston.
Ashton Valve Co.....Boston.

INJECTORS.

American Injector Co.....Detroit.
Crane Co. .....Chicago.
Jenkins Bros. .....New York.
Lunkenheimer Co. .....Cincinnati.
Penberthy Injector Co.....Detroit, Mich.

INSURANCE, MARINE.

Elphicke, C. W. & Co.....Chicago.
Fleming & Co., P. H.....Chicago.
Frankfort Marine, A. & P. G. Ins. Co....
..... New York.

INSURANCE, MARINE—Continued.

Gilchrist & Co., C. P.....Cleveland.
Hawgood & Co., W. A.....Cleveland.
Helm & Co., D. T.....Duluth.
Hutchinson & Co.....Cleveland.
McCarthy, T. R.....Montreal.
McCurdy, Geo. L.....Chicago.
Mitchell & Co.....Cleveland.
Parker Bros. Co., Ltd.....Detroit.
Peck, Chas. E. & W. F..New York & Chicago.
Prindiville & Co.....Chicago.
Richardson, W. C.....Cleveland.
Sullivan, D. & Co.....Chicago.
Voss, F. D.....New York.

IRON ORE AND PIG IRON.

Bourne Fuller Co. .....Cleveland, O.
Hanna, M. A. & Co.....Cleveland.
Pickands, Mather & Co.....Cleveland.

LAUNCHES—STEAM, NAPHTHA, ELECTRIC.

Georgian Bay Engineering Works.....
..... Midland, Ont.
Marine Construction & D. D. Co.....
.....Mariner's Harbor, S. I., N. Y.
Truscott Boat Mfg. Co.....St. Joseph, Mich.
Willard, Chas. P.....Chicago.

LIFE PRESERVERS, LIFE BOATS, BUOYS.

Armstrong, Cork Co.....Pittsburg.
Drein, Thos. & Son.....Wilmington, Del.
Kahnweiler's Sons, D. .....New York

LIGHTS, SIDE AND SIGNAL.

Russell & Watson .....Buffalo.

LOGS.

Walker & Sons, Thomas ....Birmingham, Eng.
Also Ship Chandlers.

LUBRICATING GRAPHITE.

Dixon Crucible Co., Joseph..Jersey City, N. J.

LUBRICATORS.

Crane Co. .....Chicago.
Lunkenheimer Co. .....Cincinnati.

LUMBER.

Martin-Barriss Co.....Cleveland.

MACHINISTS.

Chase Machine Co.....Cleveland.
Gogebic Steam Boiler Works....Duluth, Minn.
Hickler Bros. .....Sault Ste. Marie, Mich.
Lockwood Mfg. Co.....East Boston, Mass.
Macbeth Iron Co.....Cleveland.
Union Machine & Boiler Co.....Cleveland.

MACHINE TOOLS (WOOD WORKING).

Atlantic Works, Inc.....Philadelphia.

MARINE RAILWAYS.

Hickler Bros. .....Sault Ste. Marie, Mich.

MARINE GLUE.

Ferdinand & Co., L. W.....Boston, Mass.

MARINE RAILWAYS, BUILDERS OF.

Crandall & Son, H. I....East Boston, Mass.

MATTRESSES, CUSHIONS, BEDDING.

Fogg, M. W.....New York.

MECHANICAL DRAFT FOR BOILERS.

American Ship Building Co.....Cleveland.
Detroit Ship Building Co.....Detroit.
Great Lakes Engineering Works ..Detroit.
Sturtevant, B. F. Co.....Hyde Park, Mass.

MELTING POT AND PAYING LADLE.

(For Paying Seams of Decks with Marine Glue.)

Ferdinand & Co., L. W.....Boston.

METALLIC PACKING.

Katzenstein, L. & Co.....New York.

METAL POLISH.

Bertram's Oil Polish Co.....Boston

MOTORS, GENERATORS—ELECTRIC.

Fisher Electrical Works .....Detroit.
General Electric Co.....Schenectady, N. Y.
Sturtevant, B. F. Co.....Hyde Park, Mass.
Westinghouse Electric & Mfg. Co.....
..... Pittsburg, Pa.

Generated on 2024-07-26 22:38 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

Buyers' Directory of the Marine Trade.—*Continued.*

NAUTICAL INSTRUMENTS.
Ritchie, E. S., & Sons.....Brookline, Mass.

NAVAL ARCHITECTS.
Hynd, Alexander .....Cleveland.
Kidd, Joseph.....Duluth, Minn.
Lovejoy, H. O.....Buffalo.
Matteson & Drake.....Philadelphia.
Mosher, Chas. D.....New York.
Nacey, James .....Cleveland.
Rice, Henry .....Buffalo.
Sadler, Perkins & Field.....New York.
Steel, Adam .....Cleveland.
Wood, W. J.....Chicago.

OAKUM.
DeGrauw, Aymar & Co.....New York.
Stratford, Oakum Co.....Jersey City, N. J.

OIL ENGINES.
Mietz, Aug. .....New York.

OILS AND LUBRICANTS.
Dixon Crucible Co., Joseph..Jersey City, N. J.
Standard Oil Co.....Cleveland.

PACKING.
Crane Co. .....Chicago.
Jenkins Bros. .....New York.
Katzenstein, L. & Co.....New York.
New York Belting & Packing Co...New York.

PACKING TOOL.
Matteson & Drake .....Philadelphia.

PAINTS.
Baker, Howard H. & Co.....Buffalo.
Detroit Varnish Co.....Detroit.
Detroit White Lead Works.....Detroit.
New Jersey Zinc Co.....New York.
Upson-Walton Co. .....Cleveland.

PATTERN SHOP MACHINERY.
Atlantic Works, Inc.....Philadelphia.

PILE DRIVING AND SUBMARINE WORK.
Buffalo Dredging Co.....Buffalo.
Chicago & Gt. Lakes Dredge & Dock Co..
..... Chicago.
Dunbar & Sullivan Dredging Co.....Buffalo.
Fitz-Simons & Connell Co.....Chicago.
Hickler Bros. .....Sault Ste. Marie, Mich.
Lake Superior Contracting & Dredging Co.,
..... Duluth, Minn.
Parker Bros. Co., Ltd.....Detroit.
Smith Co., L. P. & J. A.....Cleveland.
Starke Dredge & Dock Co., C. H...Milwaukee.
Sullivan, M. .....Detroit.

PIPE, WROUGHT IRON.
Bourne-Fuller Co.....Cleveland, O.
Crane Co. .....Chicago.
Macbeth Iron Co.....Cleveland.

PLANING MILL MACHINERY.
Atlantic Works, Inc.....Philadelphia.

PLATES—SHIP, STRUCTURAL, ETC.
Bourne-Fuller Co.....Cleveland, O.
Otis Steel Co.....Cleveland.

PNEUMATIC TOOLS.
Allen, John F.....New York.

POLISH FOR METALS.
Bertram's Oil Polish Co.....Boston.

PRESSURE REGULATORS.
Kieley & Mueller .....New York.
Ross Valve Co.....Troy, N. Y.

PROPELLER WHEELS.
American Ship Building Co.....Cleveland.
Atlantic Works .... East Boston, Mass.
Cramp, Wm. & Sons.....Philadelphia.
Detroit Ship Building Co.....Detroit.
Fore River Shipbuilding Co.....Quincy, Mass.
Great Lakes Engineering Works.. Detroit.
Hyde Windlass Co.....Bath, Me.
Jenks Ship Building Co....Port Huron, Mich.
Lockwood Mfg. Co.....East Boston, Mass.
Macbeth Iron Co.....Cleveland.
Milwaukee Dry Dock Co.....Milwaukee.
Newport News Ship Building Co.....
.....Newport News, Va.
Phosphor Bronze Smelting Co., Ltd.....
..... Philadelphia.
Roelker, H. B.....New York.
Sheriffs Mfg. Co.....Milwaukee.
Superior Ship Building Co....Superior, Wis.
Thropp & Sons Co., J. E.....Trenton, N. J.
Trout, H. G.....Buffalo.
United States Ship Building Co....New York.

PROJECTORS, ELECTRIC.
General Electric Co.....Schenectady, N. Y.
Westinghouse Electric & Mfg. Co.....
..... Pittsburg, Pa.

PUMPS FOR VARIOUS PURPOSES.
Blake, Geo. F., Mfg. Co.....New York.
Great Lakes Engineering Works Detroit.
Kingsford Foundry & Machine Works....
..... Oswego, N. Y.

PUNCHES, RIVETERS, SHEARS.
Allen, John F. .....New York.

RANGES.
Russell & Watson .....Buffalo

REFRIGERATING APPARATUS.
Great Lakes Engineering Works.....Detroit.
Roelker, H. B. .....New York.

REGISTER FOR CLASSIFICATION OF VESSELS.
Great Lakes Register .....Cleveland.
Record of American & Foreign Shipping..
.....New York.

REPAIRS—ENGINE AND BOILER.
(See also Boiler Manufacturers and Engine Builders.)
Georgian Bay Engineering Works.....
.....Midland, Ont.
Gogebic Steam Boiler Works....Duluth, Minn.
Forest City Boiler Co.....Cleveland.
Marine Iron Co.....Duluth, Minn.

RIVETING MACHINES.
Allen, John F.....New York.

RIVETS, STEEL FOR SHIPS AND BOILERS.
Bourne-Fuller Co.....Cleveland, O.

SAFETY VALVES.
American Steam Gauge & Valve Mfg. Co.
..... Boston.
Ashton Valve Co.....Boston.
Crane Co. .....Chicago.
Lunkenheimer Co. .....Cincinnati.

SAIL MAKERS.
Baker, Howard H. & Co.....Buffalo.
Upson-Walton Co.....Cleveland.
Wilson & Silsby .....Boston.

SALVAGE COMPANIES.
See Wrecking Companies.

SEARCH LIGHTS.
General Electric Co.....Schenectady, N. Y.
Westinghouse Electric & Mfg. Co.....
.....Pittsburg, Pa.

SHEARS.
See Punches, Rivets, and Shears.

SHIP AND BOILER PLATES AND SHAPES.
Bourne Fuller Co.....Cleveland, O.
Otis Steel Co.....Cleveland.

SHIP BUILDERS.
American Ship Building Co.....Cleveland.
Atlantic Works .....East Boston, Mass.
Bertram Engine Works Co., Ltd.Toronto, Can.
Buffalo Dry Dock Co.....Buffalo.
Cramp, Wm. & Sons.....Philadelphia.
Craig Ship Building Co.....Toledo, O.
Chicago Ship Building Co.....Chicago.
Detroit Ship Building Co.....Detroit.
Fore River Shipbnilding Co.....Quincy, Mass.
Great Lakes Engineering Works.....Detroit.
Jenks Ship Building Co....Port Huron, Mich.
Lockwood Mfg. Co.....East Boston, Mass.
Manitowoc Dry Dock Co.....Manitowoc, Wis.
Milwaukee Dry Dock Co.....Milwaukee.
Newport News Ship Building Co.....
.....Newport News, Va.
Roach's Ship Yard .....Chester, Pa.
Shipowner's Dry Dock Co.....Chicago.
Smith & Son, Abram.....Algonac, Mich.
United States Ship Building Co..New York.
Willard, Chas. P. & Co.....Chicago.

SHIP CHANDLERS.
Baker, Howard H. & Co.. .....Buffalo.
Marine Mfg. & Supply Co.....New York.
Upson-Walton Co.....Cleveland.

SHIP LANTERNS AND LAMPS.
Russell & Watson .....Buffalo.

SHIP TIMBER.
Martin-Barriss Co.....Cleveland.

SMOOTH-ON COMPOUND, FOR REPAIRS.
Smooth-On Mfg. Co.....Jersey City, N. J.

STAYBOLTS, IRON OR STEEL, HOLLOW OR SOLID.
Falls Hollow Staybolt Co..Cuyahoga Falls, O.

STEAM VESSELS FOR SALE.
Gilchrist & Co., C. P. .....Cleveland.
Holmes, Samuel .....New York.
Lester, S. S.....Quebec, Can.
McCarthy, T. R.....Montreal, Can.

STEAMSHIP LINES, PASS. AND FREIGHT.
American Line .....New York.
Anchor Line .....Buffalo.
Boston Steamship Co.....Boston.
Cleveland & Buffalo Transit Co.....Cleveland.
Detroit & Cleveland Line.....Cleveland.
Erie & Western Trans. Co.....Buffalo.
Goodrich Trans. Co.....Chicago.
International Mercantile Marine Co.....
..... Philadelphia.
Manitou Steamship Co.....Chicago.
Mexican-American S. S. Co..New Orleans, La.
New York & Cuba Mail S. S. Co.....New York
Niagara, St. Catharines & Toronto Ry. & Nav. Co. .....St. Catharines, Ont.
Northern Michigan Trans. Co.....Chicago.
Red Star Line .....New York.
Richelieu & Ontario Nav. Co. ...Montreal, Can.
United Fruit Co .....Boston.

STEEL CASTINGS.
Macbeth Iron Co.....Cleveland.
Otis Steel Co.....Cleveland.

STEERING APPARATUS.
American Ship Building Co.....Cleveland.
Chase Machine Co.....Cleveland.
Dake Engine Co.....Grand Haven, Mich.
Detroit Ship Building Co.....Detroit.
Hyde Windlass Co.....Bath, Me.
Jenks Ship Building Co....Port Huron, Mich.
Marine Mfg. & Supply Co.....New York.
Moulton Steering Engine Co.....New York.
Pawling & Harnischfeger .....Milwaukee.
Sheriffs Mfg. Co.....Milwaukee.

SUBMARINE DIVING APPARATUS.
Morse & Son, A. J.....Boston.
Schrader's Son, A.....New York.

SURVEYORS, MARINE.
Gaskin, Edward .....Buffalo.
Hynd, Alexander .....Cleveland.
Lovejoy, H. O.....Buffalo.
Matteson & Drake .....Philadelphia.
Parker Bros. Co., Ltd.....Detroit.
Nacey, James .....Cleveland.
Rice, Henry .....Buffalo.
Steel, Adam .....Cleveland.
Wood, W. J.....Chicago.

TESTS OF MATERIALS.
Hunt, Robert W. & Co.....Chicago.
Pittsburg Testing Laboratory, Ltd....Pittsburg.

TILING, INTERLOCKING RUBBER.
New York Belting & Packing Co...New York.

TOOLS, METAL WORKING, FOR SHIP AND ENGINE WORKS.
Allen, John F.....New York.
Watson-Stillman Co.....New York.

TOOLS, WOOD WORKING.
Atlantic Works, Inc.....Philadelphia.

TOWING MACHINES.
American Ship Windlass Co..Providence, R. I.
Chase Machine Co.....Cleveland.

TOWING COMPANIES.
Donnelly Salvage & Wrecking Co.....
.....Kingston, Ont.
Great Lakes Towing Co.....Cleveland.
Midland Towing & Wrecking Co., Ltd....
.....Midland, Ont.

TRAPS, STEAM.
Kieley & Mueller .....New York.
Lunkenheimer Co. .....Cincinnati.
Sturtevant Co., B. F., ...Hyde Park, Mass.

TRUCKS.
Boston & Lockport Block Co.....Boston.

TUBING, SEAMLESS.
Shelby Steel Tube Co.....Pittsburg, Pa.

Generated on 2024-07-26 22:38 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

Buyers' Directory of the Marine Trade.—*Continued.*

VALVES, STEAM SPECIALTIES, ETC.

American Steam Gauge & Valve Mfg. Co. ..... Boston.
Ashton Valve Co. ..... Boston.
Crane Co. ..... Chicago.
Jenkins Bros. ..... New York.
Kieley & Mueller ..... New York.
Lunkenheimer Co. ..... Cincinnati.
Ross Valve Co. ..... Troy, N. Y.

VALVES FOR WATER AND GAS.

Ross Valve Co. ..... Troy, N. Y.

VARNISHES.

Detroit Varnish Co. ..... Detroit.
Detroit White Lead Works ..... Detroit.
New Jersey Zinc Co. ..... New York.
Also Ship Chandlers.

VENTILATING APPARATUS FOR SHIPS.

Sturtevant, B. F. Co. ..... Hyde Park, Mass.

VESSEL AND FREIGHT AGENTS.

Boland, John J. ..... Buffalo.
Brown & Co. ..... Buffalo.
Elphicke, C. W. & Co. ..... Chicago.
Fleming & Co., P. H. ..... Chicago.
Gilchrist & Co., C. P. ..... Cleveland.
Hall & Root ..... Buffalo.
Heim & Co., D. T. ..... Duluth.

VESSEL AND FREIGHT AGENTS—Con.

Hawgood & Co., W. A. ..... Cleveland.
Holmes, Samuel ..... New York.
Hutchinson & Co. ..... Cleveland.
Lester, S. S. ..... Quebec, Can.
McCarthy, T. R. ..... Montreal.
Mitchell & Co. ..... Cleveland.
Parker Bros. Co., Ltd. ..... Detroit.
Prindiville & Co. ..... Chicago.
Richardson, W. C. ..... Cleveland.
Sullivan, D. & Co. ..... Chicago.

WATER GAUGES.

Bonner & Co., Wm. T. ..... Boston
Lunkenheimer Co. ..... Cincinnati, O.

WIRE ROPE AND WIRE ROPE FITTINGS.

Baker, H. H. & Co. ..... Buffalo.
DeGrauw, Aymar & Co. ..... New York.
Upson-Walton Co. ..... Cleveland.

WHISTLES, STEAM.

American Steam Gauge & Valve Mfg. Co. ..... Boston.
Ashton Valve Co. ..... Boston.
Lunkenheimer Co. ..... Cincinnati.

WINDLASSES.

American Ship Windlass Co. . Providence, R. I.
American Ship Building Co. ..... Cleveland.
Hyde Windlass Co. ..... Bath, Me.
Jenks Ship Building Co. ... Port Huron, Mich.
Marine Mfg. & Supply Co. ..... New York.

WINCHES.

American Ship Windlass Co. . Providence, R. I.
Georgian Bay Engineering Works. ..... Midland, Ont.
Hyde Windlass Co. ..... Bath, Me.

WOOD WORKING MACHINERY.

Atlantic Works, Inc. ..... Philadelphia.

WRECKING AND SALVAGE COMPANIES.

Donnelly Salvage & Wrecking Co. ..... Kingston, Ont.
Great Lakes Towing Co. ..... Cleveland.
Midland Towing & Wrecking Co., Ltd. ..... Midland, Ont.
Parker Bros. Co., Ltd. ..... Detroit.

YACHT AND BOAT BUILDERS.

Bertram Engine Works Co., Ltd. . Toronto, Can.
Drein, Thos. & Son. ..... Wilmington, Del.
Georgian Bay Engineering Works. ..... Midland, Ont.
Truscott Boat Mfg. Co. ..... St. Joseph, Mich.
Willard, Chas. P. & Co. ..... Chicago.

YAWLS.

Drein, Thos. & Son. ..... Wilmington, Del.

ALPHABETICAL INDEX OF ADVERTISERS IN THE MARINE REVIEW.

The star (*) indicates that the advertisement appears alternate weeks. For addresses see advertisements on pages noted.
The dagger (†) indicates that advertisement appears once a month.

*Allen, John F. 3
Almy Water Tube Boiler Co. 42
American Bureau of Shipping 44
American Injector Co. 4
American Line 39
American Ship Building Co. 11
American Ship Windlass Co. 2
American Steam Gauge Co. 35
American Steam Packing Co. 40
Anchor Line 39
Armstrong Cork Co. 56
Ashton Valve Co. 35
Atlantic Works 41
*Atlantic Works, Inc. 6

Babcock & Wilcox Co. 8
Baldt Anchor Co. 55
Baker, Howard H., & Co. 56
*Bertram Engine Works Co. Ltd. 41
Blake, Geo. F., Mfg. Co. 45
Boland, J. J. 48
*Bonner & Co., Wm. T. 35
*Boston & Lockport Block Co. 35
Boston Steamship Co. 39
Burnie-Fuller Co. 35
Bowers, L. M., & Co. 55
Brown Hoisting Machinery Co., Inc. 2
Buffalo Dredging Co. 46
Buffalo Dry Dock Co. 10

*Camden Anchor-Rockland Machine Co. 13
Chase Machine Co. 6
Chicago & Gt. L. Dredge & Dock Co. 46
Chicago Ship Building Co. 10
Cleveland City Forge & Iron Co. 55
Cleveland & Buffalo Transit Co. . 38
Continental Iron Works 2
Contractors' Supply & Equipment Co. 9
Cory, Chas. & Son 54
*Craig Ship Building Co. 11
Cramp, Wm. & Sons, S. & E. B. Co. 41
*Crandall & Son, H. I. 3
Crane Co. 43-44

D. & C. Line 38
Dake Engine Co. 42
Dearborn Drug & Chemical Wks 9
DeGrauw, Aymar & Co. 47
Delaney, Belleville & Co. 35
Delaware River Iron S. B. & E. Works 41
Detroit Ship Building Co. 11
Detroit White Lead Works 2
Dixon Crucible Co., Joseph 54
Donnelly Salvage & Wrecking Co 44
Drein, Thos., & Son. 40
Dunbar & Sullivan Dredging Co. 46

Elphicke, C. W., & Co. 48
Erie & Western Trans. Co. 38

Falls Hollow Staybolt Co. 47
Fisher Electrical Works 40
Fitz-Simons & Connell Co. 46
Fix's, S., Sons 54
Fleming & Co., P. H. 48
Fletcher, W. & A., Co. 41
Fogg, M. W. 2
Fore River Shipbuilding Co. 41
Forest City Boiler Co. 54
Frankfort M. A. & P. G. I. Co. 44

General Electric Co. 56
*Georgian Bay Engineering Wks. 41
Gilchrist, Albert J. 48
Gilchrist & Co., C. P. 48
Gogebic Steam Boiler Works 41
Goodrich Trans. Co. 38
Goulder, Holding & Masten 48
Great Lakes Engineering Works 12
Great Lakes Register 52
*Great Lakes Towing Co. 11

Hall & Root 48
Hanna, M. A., & Co. 47
Hawgood & Co., W. A. 48
Helm & Co., D. T. 48
Hickler Bros. 46
Holmes, Samuel 48
Holzapfel's American Compositions Co. 45
Hoyt, Dustin & Kelley 48
Hunt, Robert W., & Co. 49
Hutchinson & Co. 48
Hyde Windlass Co. 56
Hynd, Alexander 49

International Mercantile Marine Co. 39
Ironville Dock & Coal Co. 47

Jenkins Brothers 56
Jenks Ship Building Co. 11

Kahnweiler's Sons, David 40
Katzenstein, L., & Co. 40
Kidd, Joseph 49
*Kieley & Mueller 35
Kingsford Foundry & Machine Works 42
Kremer, C. E. 48

Lake Superior Contracting & Dredging Co. 46
Lebanon Chain Works 54
LeMois Scientifique et Industrial. 3
Lester, S. S. 48
Lockwood Mfg. Co. 41
Lovejoy, H. O. 49
L. S. & M. S. Ry. 55
Lunkenheimer Co. 54

McCarthy, T. R. 48
McCurdy, Geo. L. 44
†McNab & Harlin Mfg. Co. 56
Macbeth Iron Co. 49
MacDonald, Ray G. 41
Manitowoc Dry Dock Co. 38
Manitou Steamship Co. 47
Marine Iron Co., Bay City, Mich. 41
Marine Iron Co., Duluth 40
*Marine Mfg. & Supply Co. 43
Martin-Barriss Co. 40-49
Matteson & Drake 38
Mexican-American S. S. Co. 48
Midland Towing & Wrecking Co., Ltd. 55
Mietz, Aug. 6
Milwaukee Dry Dock Co. 10
Mitchell & Co. 48
Morse & Son, A. J. 54
Mosher Water-Tube Boiler Co. ... 43
Moulton Steering Engine Co. ... 42

Nacey, James 49
Newport News Ship Building & Dry Dock Co. 7
New Jersey Zinc Co. 6
New York Belting & Packing Co. 3
New York & Cuba Mail S. S. Co. 39
Niagara, St. C. & T. Ry. & N. Co. 38
Northern Mich. Trans. Co. 38
Northwestern Steam Boiler & Mfg. Co. 42

Otis Steel Co. 3

Parker Bros. Co. 48
Pawling & Harnischfeger 42
Peck, Chas. E. & W. F. 44
*Penberthy Injector Co. 8
Phosphor Bronze Smelting Co., Ltd. 40
Pickands, Mather & Co. 47
Pittsburg Coal Co. 9
Pittsburg Testing Laboratory, Ltd. 49
Potter & Potter 49
Potter, J. D. 40
Powell, Ambrose V. 49
Prindiville & Co. 48

Record of American & Foreign Shipping 44
Red Star Line 39
Reliance Mfg. Co. 40
Rice, Henry 49
Richardson, W. C. 48
*Ritchie & Sons, E. S. 47
Roberts Water-Tube Boiler Co. .. 4
Roelker, H. B. 41
Ross Valve Co. 54
Russell & Watson. 45

Sadler, Perkins & Field. 49
Safety Car Heating & Lighting Co. 8
Scherzer Rolling Lift Bridge Co. 45
Schrader's Sons, A. 2
Shaw, Warren, Cady & Oakes. ... 49
*Shelby Steel Tube Co. 8
Sheriffs Mfg. Co. 45
Shipowners' Dry Dock Co. 41
Shipping World 8
*Smith & Son, Abram. 47
Smith Co., L. P. & J. A. 46
Smith Coal & Dock Co., Stanley B 9
Smith Premier Typewriter Co. .. 45
Smith, Stanley B., & Co. 9
Smooth-On Mfg. Co. 37
†Standard Gauge Mfg Co. 8
*Standard Oil Co. 55
Starke Dredge & Dock Co., C. H. 46
Steel, Adam 49
Stirling Co. 8
Stratford Oakum Co., Geo. 45
Sturtevant, B. F., Co. 56
Sullivan, M. 47
Sullivan & Co. 48
Superior Ship Building Co. 10

Taylor Water-Tube Boiler Co. ... 43
†Temple Pump Co. 43
Thropp, J. E., & Sons Co. 54
Trout, H. G. 45
Truscott Boat Mfg. Co. 40

Union Machine & Boiler Co. 47
United Fruit Co. 38
Upson-Walton Co. 56

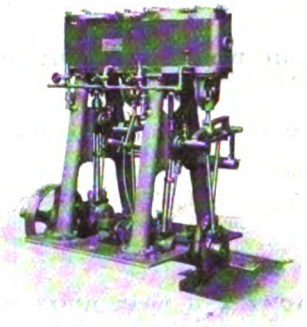
Victor Metals Co. 2

Walker Thomas, & Son 43
Ward Line 39
*Watson-Stillman Co. 55
Westinghouse Electric & Mfg. Co. 53
White, Johnson, McCaslin & Cannon 48
*Willard, Chas. P., & Co. 35
Wood, W. J. 49

Generated on 2024-07-26 22:38 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

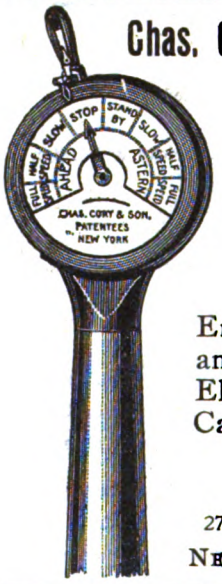
John E. Thropp & Sons Co.,

TRENTON, N. J.



Builders of Single, Compound, Triple-Expansion and Direct Connected Engines.

Boyer Sectional Water Tube boilers and machinery complete for light draft Passenger Boats, Yachts, Tugs, Etc.



Chas. Cory & Son,

Manufacturers of

Mechanical and Electrical Telegraphs and Indicators.

Engine Bells and Electric Call Bells.

278-279 Division St.

NEW YORK CITY.

A. J. MORSE & SON.

DIVING APPARATUS

140 CONGRESS ST. BOSTON.

ORAM FIX. ESTABLISHED 1860. J. W. FIX.

S. FIX'S SONS,

SUCCESSORS TO S. FIX & SON

Steam Flue Welding Works

Our Work Stands Government Test.
Our We'ds are Perfectly Smooth.
Write us for Prices.

COR. LEONARD AND WINTER STS. Cleveland, O.

DIXON'S GRAPHITE PIPE JOINT COMPOUND

VERY USEFUL ON SHIPBOARD

Not only upon piping of all sorts, but upon bolts, nuts, studs, caps, etc. Threaded joints will then never rust or stick.

Write for new booklet 77-D and free sample

JOSEPH DIXON CRUCIBLE CO., - Jersey City, N. J.

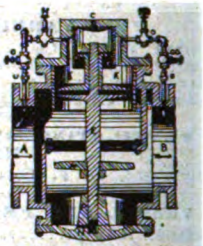
WATER FILTERS REGULATORS & ENGINES

We make **Pressure Regulating Valves** for all purposes, steam or water.

Our **Feed-Water Filter** will keep oil out of your boiler.

We can interest you if you use a condenser.

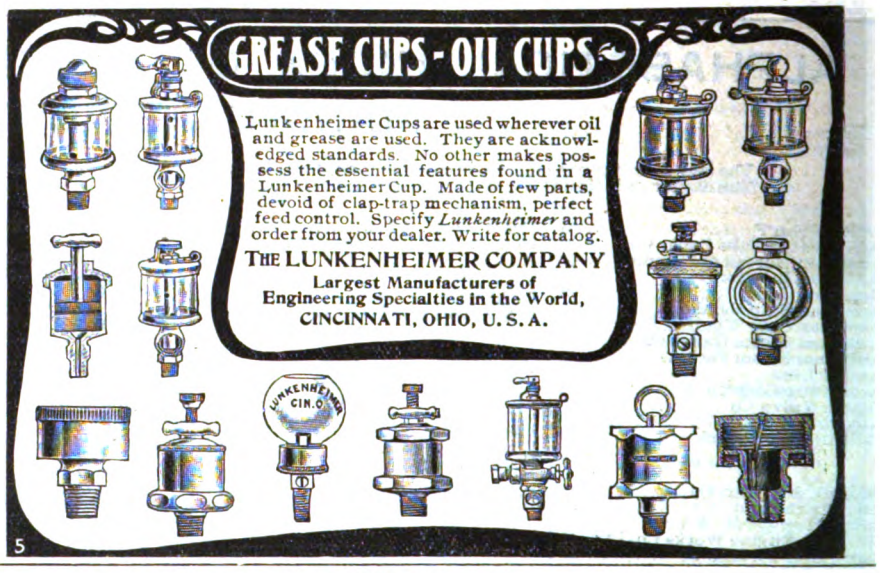
Water Engines for Pumping Organs



Water Works Regulating Valve
Has no peer
Ask for list of Water Works using our valves.

THE ROSS VALVE CO. TROY N.Y.

GREASE CUPS - OIL CUPS



Lunkenheimer Cups are used wherever oil and grease are used. They are acknowledged standards. No other makes possess the essential features found in a Lunkenheimer Cup. Made of few parts, devoid of clap-trap mechanism, perfect feed control. Specify *Lunkenheimer* and order from your dealer. Write for catalog.

THE LUNKENHEIMER COMPANY
Largest Manufacturers of Engineering Specialties in the World,
CINCINNATI, OHIO, U. S. A.

5

LEBANON CHAIN WORKS,

LEBANON PA.

Manufacturers of **HAND MADE CHAINS** of all grades.

SHIPS' CABLES, DREDGE CHAINS, CRANE CHAINS, BLOCK CHAINS.

Large chains furnished side or end welded. High grade tested chains a specialty.
We manufacture our own iron. We are licensed testers for Lloyds Association, American Bureau of Shipping and Bureau Veritas.

Hand Book of Admiralty Law

By ROBT. M. HUGHES.

$3.75.

Marine Review, - - Cleveland, O.

John D. Gilchrist, Pres. John Marron, Sec'y.
John A. Flajole, Gen'l Mgr.

THE FOREST CITY BOILER CO.

Marine Work a Specialty.

264 Merwin St. Tel. Main 1886
CLEVELAND, OHIO.

STEEL SHIPS: Their Construction and Maintenance.

A manual for ship builders, ship superintendents, students and marine engineers.

BY THOMAS WALTON.

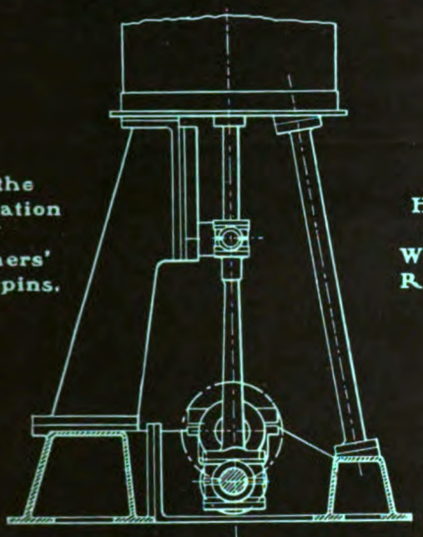
Price $5.50.

The Marine Review, Cleveland, O.

Generated on 2024-07-26 22:39 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

Vacuum

No. 1 MARINE ENGINE OIL



for the Lubrication of Steamers' Crank-pins.

Holds the World's Record.

STANDARD OIL CO., of New York

JAMES PLAYFAIR, { Pres't and Gen. Mgr. } D. L. WHITE, Vice President.
J. W. BENSON, Secretary and Treasurer.

MIDLAND TOWING and WRECKING CO., Ltd.

MIDLAND, ONT., CANADA.

FIRST-CLASS TUGS FOR WRECKING, RAFT TOWING, Etc., STEAM PUMPS, DIVERS, JACKS, HAWSERS, LIGHTERS.

CLEVELAND CITY FORGE & IRON CO.

CLEVELAND, O.

IRON OR STEEL FORGINGS FINISHED COMPLETE, ROUGH MACHINED OR SMOOTH FORGED ONLY, OF ANY WEIGHT. COUPLING LINKS AND PINS. PRESSED WROUGHT IRON TURNBUCKLES. CAR IRON SPECIALTIES.

Latest Patent Anchors

THE
National and International.

APPROVED BY LLOYDS

Manufactured by
L. M. BOWERS & CO.,
Binghamton, N.Y.

Furnished to Lake Trade by
The Upson-Walton Co.
CLEVELAND

CATALOGUE ON APPLICATION.

IN A RECENT TEST

MADE BY UNCLE SAM,

where both Foreign and Domestic Anchors were considered, the . . .

Baldt Stockless Anchor

was the only one approved

For Catalogue and particulars address

The Baldt Anchor Co., Chester, Pa.

LAKE SHORE AND MICHIGAN SOUTHERN RY.

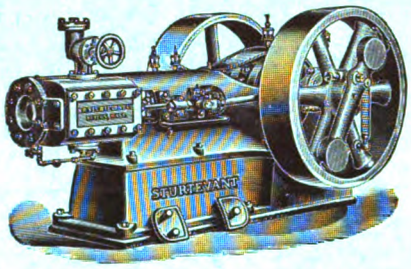
Eastward	Arrive from West	Depart East
No. 18, Southwestern Limited	.....	*1:50 a.m.
No. 22, Lake Shore Limited	*2:12 a.m.	*2:20 a.m.
No. 20, Chicago and Cleveland Exp.	*7:20 a.m.	.....
No. 28, New York and Boston Exp.	*7:40 a.m.	*8:00 a.m.
No. 40, Toledo and Buffalo Accom	†10:00 a.m.	†10:30 a.m.
No. 32, Fast Mail	*11:25 a.m.	*11:30 a.m.
No. 48, Accommodation via Sandusky	†1:40 p.m.	.....
No. 42, Boston-New York Express	.....	*11:45 a.m.
No. 44, Cleveland and New York Spl.	.....	*3:00 p.m.
No. 46, Southwestern Express	.....	*3:10 p.m.
No. 116, Ashtabula Accommodation	.....	†4:30 p.m.
No. 6, Limited Fast Mail	*5:40 p.m.	*5:45 p.m.
No. 26, 20th Century Limited	*7:40 p.m.	*7:43 p.m.
No. 10, Chicago, N.Y. & Boston Spl.	*7:30 p.m.	*7:50 p.m.
No. 16, New England Express	*10:30 p.m.	*10:35 p.m.
No. 2, Day Express	†9:10 p.m.	†9:25 p.m.
No. 126, Norwalk Accommodation	†7:55 a.m.	.....

Westward	Arrive from East	Depart West
No. 7, Exposition Limited	*12:50 a.m.	.....
No. 11, Southwestern Limited	*2:55 a.m.	.....
No 9, Day Express	.....	†6:10 a m.
No. 15, Boston and Chicago Special	*3:10 a.m.	*3:15 a.m.
No. 19, Lake Shore Limited	*7:15 a.m.	*7:25 a.m.
No. 23, Western Express	*10:30 a.m.	*10:35 a m.
No. 29, Southwestern Special	‡11:10 a.m.	.....
No 33, Southwestern Express	*12:25 p.m.	.....
No. 133, Cleveland and Detroit Exp.	.....	*12:45 p.m.
No. 47, Accommodation	†11:00 a.m.	†3:00 p m.
No. 141, Sandusky Accommodation	.....	†3:10 p.m.
No. 43, Fast Mail	*4:35 p.m.	*4:40 p.m.
No. 127, Norwalk Accommodation	.....	†5:10 p.m.
No. 37, Pacific Express	*6:50 p.m.	*7:20 p m.
No. 3, Fast Mail Limited	*10.50 p.m.	*10:55 p.m.
No 115, Ashtabula Accommodation	*8.30 a.m.	.....

*Daily. †Except Sunday. ‡Except Monday.
Trains Nos. 23, 28 and 37 run via Erie Station.
City Ticket Office, 237 Superior St

Generated on 2024-07-26 22:39 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY

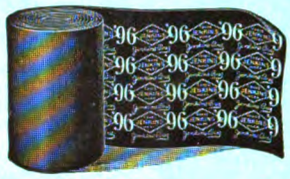
10000
Sturtevant Engines



Are in use throughout the world.
We build all types and sizes from 2 to 400 H. P.

B. F. STURTEVANT CO.
BOSTON, MASS.
General Works and Office:
HYDE PARK, MASS.
New York. Philadelphia. Chicago. London.
(357)

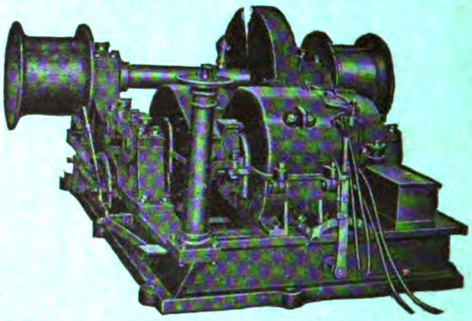
TIME and Steam cost money. Leaky steam joints waste them fast. JENKINS '96 PACKING---which is absolutely guaranteed---saves both.



Insist on having Packing stamped with Trade Mark as shown in the cut, if you would have the genuine

JENKINS BROS., - NEW YORK, BOSTON, CHICAGO, PHILADELPHIA, LONDON.

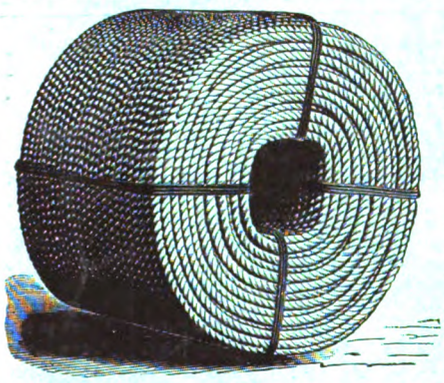
GENERAL ELECTRIC COMPANY.



Deck Winch connected to General Electric Motor.

GENERAL OFFICE: SCHENECTADY, N. Y.

Cleveland Office, CITIZENS BUILDING. Sales Offices in all Large Cities



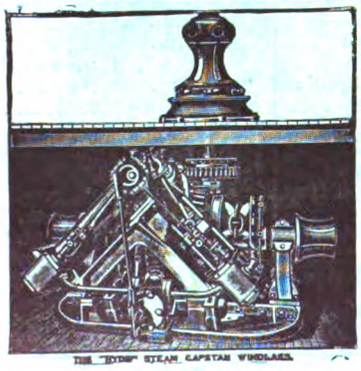
We pride ourselves upon having given the manufacture of rope and cordage more attention than any other house in America. We carry a complete line and can fill all orders quickly.

The UPSON-WALTON Co. - Cleveland, O.

Marine Repairs
AND
Castings

The Macbeth Iron Company,
CLEVELAND, OHIO,

WINDLASSES AND CAPSTANS



The Hyde Steam and Power Windlasses and Capstans are the best in the market.

They have been selected for most of the vessels now building for the Navy Department, Revenue Marine, Light-house Board and United State Coast Survey

They are being furnished for the majority of the highest class Steam Ships, Merchant Vessels and Yachts now building.

HYDE WINDLASS COMPANY, BATH MAINE.

LIFE PRESERVERS—BUOYS.

Acme. Solid Cork. Granulated Cork. Each Preserver stamped by U. S. Inspector guaranteeing proper buoyancy. Cork Filled Yacht Fenders. Cork Mooring Buoys. Material and Finish Guaranteed. Orders filled promptly.

ARMSTRONG CORK COMPANY,
Boston. New York. Philadelphia. Pittsburg. Chicago. St. Louis. Baltimore.

Howard H. Baker & Co.,
SHIP CHANDLERS
and SAIL MAKERS

18 to 26 Terrace, BUFFALO, N. Y.

Generated on 2024-07-26 22:39 GMT / https://hdl.handle.net/2027/nyp.33433109947543
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from NEW YORK PUBLIC LIBRARY